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Dietary Unsaturated Fatty Acids and Iodin

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The recently published findings of Burr and Burr[1], as to the apparent necessity of furnishing linoleic acid (and possibly arachidonic acid) to rats maintained for a number of months on a fat-free diet, have led us to consideration of the work of McCarrison[2], the Mellanbys[3] and others as to a true physiological antagonism between unsaturated fatty acids and iodin or thyroxin.

Low Fat Disease of the Burrs

Burr and Burr[1] found that rats kept for about 6 months on a fat-free diet, but with traces of KI added to the drinking water, developed emaciation, necrosis of the tail, a scaly skin, and kidney hyperplasia. They found, however, that the unsaturated fatty acids were extremely effective in curing the low-fat disease. Their interpretation of these results in comparison with the negative results obtained with saturated fatty acids is that "linoleic acid (and possibly others) is an essential fatty acid."

As one of us (4) has pointed out, the success of the Burrs' experiments with unsaturated fatty acids may be due to their relatively high iodin number in comparison with butter fat which has a very low iodin number. We assume that the KI added to the drinking water proved to be an excess of iodin for the animals in a highly depleted condition after from 4 to 6 months of fat starvation.

Our interpretation of the results obtained is supported by several types of evidence: (a) that certain symptoms mentioned by the Burrs in their low fat disease may occur in iodin feeding, (b) that unsaturated fatty acids are thought to be physiologically antagonistic to iodin, (c) and that studies by Bloor, Hill, Sperry,[5,6] and others, of the ether-soluble material from feces, indicate that feces consumption in the negative experiment of Sinclair[7], on fat-free diets, protected the rats against the excess iodin effect of the Burrs.

Effects of Excess Iodin

It is interesting to note that certain symptoms mentioned by the Burrs in their low fat disease may be caused by excess iodin feeding. Emaciation and arrested growth, for example, may occur in excess iodin feeding. Cameron and Carmichael[8], E. R. Hoskins[9], Herring[10] and others have shown that thyroid feeding induces hypertrophy of the heart, liver, adrenals and kidneys, with increased metabolism. They have also recorded the *disappearance of fat*. Herring[10] drew attention to the marked hypertrophy occurring in the heart and kidneys after thyroid feeding, and disagreed with Hoskins' contention[9] that it was due to a general increase in the metabolism of the body, attributing it to a *combination* of metabolism and adrenal effect.

Foods That Apparently Induce Goitre

Certain foods are supposed to be factors in the production of goitre. In 1867 St. Lager[11] stated that foods rich in fats such as pork had at that time long been considered an important factor in the cause of goitre. Meat diets were shown by Baumann, Watson[12,13] and others to induce hyperplasia of the thyroid of rats.

The experiments of Reid Hunt[14] demonstrated the significance of the activity of the thyroid gland in developing a high degree of resistance to certain diets and suggested the specific effects of diets on overgrowth of the thyroid glands.

Marine and Lenhart[15,16] found that pig's liver was extremely potent in inducing thyroid hyperplasia in dogs and even in brook trout.

McCarrison[2] found that diets including an excessive amount of iodin-free unsaturated fats such as lard and butter produced thyroid hyperplasia in pigeons. The Mellanbys[3] confirming McCarrison's earlier study found that thyroid hyperplasia could be induced by the administration of diets containing a high proportion of unsaturated fats, such as butter fat, but that cod-liver oil, also containing unsaturated fats (but carrying with it also considerable *iodin*), would reduce the hyperplasia. McCarrison[17, 18] in extremely thorough studies with tadpoles and pigeons, clarified the matter by demonstrating the importance of the iodin content of the cod-liver oil. He found that an excessive proportion of an iodin-deficient, unsaturated fat or fatty acid such as butter or oleic acid produced thyroid hyperplasia and retardation of growth in tadpoles and pigeons receiving a supposedly adequate amount of iodin. Pigeons receiving no added fats, but having access to their feces, developed thyroid hyperplasia, although to a lesser degree. The unfavorable effect of the unsaturated fat on the thyroid and growth could be entirely compensated for by 0.05-0.1 per cent iodin in the food. Cod-liver oil, containing 0.002 per cent iodin, did not produce symptoms of thyroid deficiency when substituted for other unsaturated fats. In tadpoles, McCarrison found that 1 milligram of iodin per gram of the food mixture retards the development of the thyroid in the absence of butter; while, in the presence of butter, the fat-iodin balance is restored and the gland develops normally.

The metamorphosis rate of tadpoles normally accelerated by a high iodin intake was delayed by cod-liver oil. Butter and cocoanut oil hastened the abnormal metamorphosis induced by a large iodin intake. Oleic acid and linseed oil, however, exercised little influence on metamorphosis when furnished together with considerable quantities of iodin.

McCarrison concludes that "more iodin is required by the thyroid gland, or by the tissue cells in the form of the gland's iodin-containing hormone, in the presence of an excess of fats in the food than when no such excess exists, especially so if bacterial intervention be occurring in the digestive tube." He also holds that "there is such a thing as a 'Fat-Thyroid-Iodin balance' and that this balance may be disturbed by an excess of fats on the one hand or a deficient supply of iodin on the other. An excess of fats may lead to a relative deficiency of iodin."

In the studies of McCarrison and the Mellanbys it was shown that the unsaturated fats, with the exception of cod-liver oil, were able to render the thyroxin of the body physiologically inactive, and thus to initiate hyperplasia of the thyroid gland; while the cod-liver oil, which contained 0.002 per cent of iodin in McCarrison's studies, was able to keep the iodin-fat balance more nearly normal, and protect the thyroid against the tendency to hyperplasia.

Fat-Rich Diets

In a study of fat-rich diets, Levine and Smith[19] tested the efficiency of high fat diets in which *lard* varied from 34 per cent to 64 per cent, the standard diet containing only 22 per cent. Cod-liver oil was furnished to each lot and the Osborne-Mendel salt mixture containing additional iodin was furnished. Under these conditions the animals grew at a normal rate. We are inclined to stress the significance of the *iodin intake* in preserving a proper iodin-fat balance.

Miyazaki and Abelin[20, 21, 22] studied the specific dynamic action of fat before and after thyroid feeding. They found that fat feeding checked thyroid function, and that the dynamic action of fat could be reduced to normal bounds by thyroid feeding. Preliminary heavy feeding of fat was antagonistic to thyroid extract. They emphasized the pronounced influence of thyroid feeding on metabolism of fats as well as of carbohydrates.

Feces Consumption as a Protection Against the Low Fat Disease

Sinclair[7] found that rats fed a fat-free diet and living in cages with false bottoms developed scaliness of the tail and other symptoms of the fat disease demonstrated by the Burrs. Shortage of cages caused Sinclair to utilize the ordinary stock cages in which the rats had access to their feces, and he then found that they did not develop the scaliness. Rats in false bottom cages with a fat-free diet and 10 per cent of lard did not develop the "fat disease."

Sinclair showed that the constituent fatty acids of the phospholipids in the tissues of rats raised on a "fat-free" diet have a low degree of unsaturation as compared with those of stock rats on a diet containing olive oil. He also found that small amounts of cod-liver oil added to the fat-free diet increased the iodin numbers of the phospholipid fatty acids from the level of 100, for animals fed the fat-free diet, to about 125; and that 1 per cent by weight of lard gave an iodin number of 115.

But since there was no appreciable difference between the iodin numbers of the phospholipid fatty acids from the normal rats raised in stock cages and those from the rats kept in false bottom cages and having access to their feces, Sinclair is inclined to consider the evidence against the probability of consumption of any appreciable effective quantity of unsaturated fatty acids from the feces.

In view of the extensive studies of Bloor, Hill, Sperry[5, 6] and others, which show that, aided by bacterial action in the intestine, animals may exhibit in their feces *larger quantities* of the unsaturated fatty acids than were presented in their *foods*, we are inclined to emphasize the significance of the amount of unsaturated fatty acids that may be derived from feces accumulation in filthy cages as indicated by the studies of McCarrison and Sinclair. Such available unsaturated fats could render relatively large quantities of iodin physiologically ineffective.

Goitrogenic and Anti-Goitrogenic Activities of Cabbage

The work of Chesney, Clawson and Webster,[23] which indicated that cabbage fed to rabbits as their principal food produces thyroid hyperplasia, suggested further studies to Marine and his associates.[24, 25, 26, 27]

Marine, Baumann and Cipra[24] indicated their belief that cabbage depletes the thyroid, and produces iodin insufficiency resulting in hyperplasia of the thyroid.

Marine, Baumann and Webster[27] assume that the *anti-goitrogenic* activity of cabbage corresponds with the amount of reducing substance present. They state that plant juices prevent or cure thyroid hypeplasia by a thyroid-sparing agent, that is, by providing another mechanism for promoting tissue oxidations. "The goitrogenic activity of the cabbage was, in general, inversely proportional to its ability to absorb iodine. Iodine administration prevents thyroid hyperplasia by making it easier for the thyroid to produce more thyroxin."

According to our contention many plant juices may furnish requisite iodin to protect against goitre. It is well known that cabbage, (especially the green leaves) contains quantities of unsaturated fatty acids, and we believe that these *unsaturated fatty acids* constitute the "goitrogenic factor" which became effective in those

cases where iodin was extracted or otherwise rendered unavailable.

Webster and Chesney[28] elminated the possibility of the influence of fecal contamination reported by McCarrison, and obtained thyroid hyperplasia with a cabbage diet fed to rabbits for 2 or 3 months. They found that the administration of 7.5 mgm. of iodin per week protected against the "goitrogenic agent" of cabbage. They hold that the goitrogenic agent depresses some oxidizing system, which depression the thyroid attempts to overcome. These depressing agents, we suggest, may be the *unsaturated fatty acids.*

SUMMARY

1. The studies by one of us on the influence of minute quantities of iodin on rats receiving a normal diet, as compared with those receiving various deficiency diets, and by the other on arachidonic acid and other fats, have led us to survey certain literature that would serve to emphasize the significance of the unsaturated fatty acids and iodin.

2. Literature is cited which indicates that the "essential fatty acids" of the Burrs, who placed rats on a fat free diet for from 4 to 6 months, were curative because they restored the iodin-fat balance in animals that were receiving iodin sufficient to accentuate symptoms of hyperiodism, because of accompanying fat starvation.

3. Important studies of McCarrison, the Mellanbys, and others, are also discussed, since they emphasize the fact that cod-liver oil, carrying unsaturated fatty acids, is extremely important in curing or preventing thyroid hyperplasia, because of the appreciable quantity of iodin that it also carries.

4. Comments are made on the "goitrogenic factor" of cabbage, of Chesney, Webster, Marine and others, and an attempt is made to show that depletion of the thyroid, and iodin insufficiency resulting in thyroid hyperplasia, may have been induced by the highly unsaturated fatty acids of cabbage leaves, which became effective as a "goitrogenic factor" in cases where iodin was extracted or otherwise rendered unavailable.

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The Use of Squill in Heart Disease

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One of the oldest remedies in the treatment of heart disease is squill. It is mentioned in the Ebers Papyrus as a heart remedy, where it appears with several other ingredients, but it apparently was the most important constituent of the prescription. Hippocrates made wide use of it both externally and internally for various conditions. Pythagoras was acquainted with it and wrote a treatise on it, and Pliny described a method of preparing the vinegar of squill and honey of squill for use in dropsies. It was a remedy held in high regard, and the great physicians of former times, among them Dioscorides, Celsus, Galen and Theophrastus, recommended its use in heart affections. It was, in fact, the digitalis of former days.

With the passing of the years squill fell into oblivion, just as digitalis lost some of its vogue until it was restored to primacy by Sir James Mackenzie. In the case of squill it was rediscovered by G. van Swieten. Inspired by the work of Swieten, Altorfi in 1715 and Duisburg in 1740 took as their thesis for the doctorate the medicinal virtues of squill. In 1772, Fr. Home for the first time made experimental studies of the effect on the heart of this remedy. In 1866 Fagge and Stevenson made an elaborate series of studies of squill on the heart in animals. Husemann in 1875 showed that the active principles contained in squill produced in general the same effects on the heart and general circulation as did digitalis. Several principles have been isolated from the bulb, the first being scillitin by Vogel in 1812, Thelloy in 1827, Landerer, 1834, and Mandet in 1859. Scillitit was isolated by Thomson in 1831, but not as a chemically pure substance. Merck in 1879 discovered three glucosides, scillipicrin, scillenin and scillamarin. Janersted in 1880 discovered scillain. In 1921 Stoll and Suter isolated a crystalline body from squill which they called scillaren, which at the present time is regarded as the least toxic and most active of the principles, and is the one most in use.

The drug squill is made up of the inner scales of the bulb of Urginea maritima or Scilla maritima (sea-onion). The various preparations of squill are the dried bulb (scilla) with a dosage, according to the U. S. P., of 0.1 gm. (1½ grains); vinegar of squill (acetum scillae), 1 cc. (15 minims); oxymel, from 2 to 4 cc. (½ to 1 dram), B. P.; pill ipecac with squill, from 0.25 to 0.5 gm. (4 to 8 grains), B. P.; syrup of squill, 2 cc. (30 minims); compound syrup of squill, 2 cc. (30 minims), and tincture of squill, 1 cc. (15 minims). It is also available in the active principle form of scillaren in ampules containing scillaren B for intravenous injections, and in drop solutions, tablets and suppositories containing two-thirds of scillaren A, and one-third of scillaren B.

The tablets come in doses of .2 mg. The solution comes in the strength of 1:2000 and the ampules contain .17 mg. of the active principle.

Physiologically squill has been found to have the following actions:

(1) It increases cardiac tonus.
(2) It reinforces systole and increases the amplitude of pulsation.
(3) It elevates the blood pressure slightly.
(4) It produces diuresis.
(5) It inverts or flattens the T wave of the electrocardiogram in the same way as digitalis.
(6) It causes a reduction in pulse rate and a subjective improvement.

Squill preparations meet with a very skeptical recognition from some clinicians, while others recommend them highly. Eismayer tested scillaren clinically on many patients and found that it had the following effects: A rapid heart beat was slowed in a few minutes by the intravenous application, and in one or two days by oral administration. Absolute arythmia was promptly changed into eurhythmia. Extrasystoles were favorably influenced. In a case of paroxysmal tachycardia, no effect was observed. Arythmia perpetua caused by digitalis was unfavorably influenced by squill.

On the general circulation the influence of squill resembles that of digitalis. Signs of congestion, edema and cyanosis are relieved. Cumulative effects, especially with intravenous injections, are seen.

Some patients react better to squill than to digitalis, while the exact opposite is also true. However, the majority react the same to both. Some patients who persistently use a cardiac remedy become refractory to digitalis, and finally also to strophanthin. In this refractory stage, squill proves of great value. This interchangeability of scillaren with digitalis is shown by a search of the literature.

As is the case with most heart remedies, squill is not entirely free from undesirable symptoms. Secondary effects sometimes observed are diarrhea and vomiting on oral doses, tenesmus on rectal application. These, however, are not serious and can be relieved by stopping the drug.

The following is the regimen for oral administration of squill in the form of its active principle in tablet form: ½ tablet twice a day (one half tablet = 0.4 mg.). Increase the dose daily by two doses of 0.4 mg. each, eventually reaching 10 times 0.4 mg. until the effect appears. One half tablet four times a day usually suffices. With this dosage diarrhea and vomiting will probably not appear. If they do, the previously tolerated dose is given again. Cumulation need not be feared, as the doses are small, and as the tablets and drop solutions contain Scillaren A, which has a less cumulative effect. Intravenously, 0.3 mg. may be used on the first day, 0.4 mg. on the second, 0.5 mg. on the third and thenceforth 0.5 mg. every second or third day. One may also inject 0.5 mg. from the first day at intercalating intervals according to the behavior of the pulse. The doses may be diminished.

The effect of squill is in many points similar to that of digitalis. It seems, however, that squill has an independent place in therapy. It is especially efficient in very slight cardiac insufficiency still refractory to digitalis, in severe cases as a temporary substitute for digitalis, and in cases which, for some reason, do not respond any more to digitalis. Finally, there are patients who, to begin with, respond poorly to digitalis and very well to squill. So far, the results show that squill may be used with confidence in cardiac insufficiency.

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Abdominal Symptoms in Coronary Thrombosis

We may now turn to the atypical cases of coronary thrombosis in which the clinical picture suggests an acute surgical condition in the abdomen. The earlier medical writers, not recognizing coronary occlusion as a distinct entity, described such cases as abdominal angina. They were known to Heberden, and Butler in his book published in 1791, entitled "On the Disease commonly called Angina Pectoris," says that the pain, although usually mid-sternal, may arise occasionally in the pit of the stomach. Potain used the term "Angina sub-diaphragmatica," Huchard and Neusser, "Angina pseudogastralgica," the late Sir Clifford Allbutt, "Epigastric Angina." It is, therefore, no recent observation that heart disease may cause acute abdominal symptoms.

How often we have heard, and indeed still hear, of individuals dying suddenly of "acute indigestion." A patient in his customary health eats a hearty meal and shortly after, while resting perhaps, is seized with an agonizing pain in the pit of the stomach. A physician is called who finds his patient in collapse, complaining of flatulence or perhaps nausea and vomiting. Death seems imminent, and indeed may occur before any form of treatment may be administered. Such a case presents no particular diagnostic problem and at autopsy one usually finds a fresh thrombus occluding the lumen of the coronary artery. On the other hand, there is a small group of patients who survive the initial attack of pain and who develop acute abdominal symptoms, *i.e.*, acute pain and tenderness, usually in the upper abdomen, rigidity, nausea, vomiting, jaundice, fever and leucocytosis. This picture obviously presents a difficult diagnostic problem and one calling for a solution as soon as possible, since such surgical lesions as acute intestinal obstruction, perforated gastric and duodenal ulcer, acute pancreatitis, acute appendicitis, gallstone colic, must be considered.

If the question of heart disease is under consideration, it is important to have in mind the following facts:

(1) Coronary thrombosis has as an anatomical basis—coronary arteriosclerosis.

(2) Coronary arteriosclerosis is associated with the ageing process; it is unusual under 40 years of age; most cases are beyond 50.

(3) Coronary arteriosclerosis is about four times as common in men as in women. It is a rare disease in women under 50.

Therefore, in doubtful cases, particular attention is paid to the cardiovascular system. The history of high blood pressure, breathlessness on exertion, tightness in the chest, anginal pain, previous attacks of indigestion, is carefully scrutinized. Distant heart sounds, a gallop rhythm, the pulsus alternans, a disturbance in the cardiac mechanism, such as extra systoles, auricular fibrillation, a low blood pressure, and feeble precordial impulse are important objective findings. The presence of a pericardical friction rub will settle the question in the vast majority of instances, because this affords almost indisputable evidence of myocardial infarction from coronary thrombosis. Finally, in difficult cases, most valuable information is had from electrocardiograms. Certain more or less characteristic distortions of the ventricular complexes are now known to result from infarction of the heart wall. Studied along the lines above indicated, it is possible, I believe, to reach a correct diagnosis in a high percentage of patients with coronary disease who present a clinical picture of acute abdominal symptoms.—R. W. Scott, M.D., in *Canad. Med. Assn. J.*, Sept., 1930.

Controlling Contagious Diseases

Terminal disinfection is more effective than any form of fumigation that can be used. It is safer, more practical and economical.

Certain diseases can be and are most effectively controlled by prompt quarantine of both patient and contacts—for a period sufficient to determine that they are not coming down with the disease.

Closure of schools in a threatened epidemic is inadvisable if it is possible to make a daily inspection for picking out suspicious cases. But if schools should be closed, all pupils become a potential threat unless they are isolated on their premises until after expiration of the incubation period.

Vaccination prevents smallpox. Therefore, schools should never be closed for this disease; but those not vaccinated should be placed in quarantine by the local Board of Health.—*P. H. Bartholomew, Director of Public Health, State of Nebraska.*

Nervous Complaints and the Nervous Complainer

(This Simple Blanket Phrase May Serve to Indicate the Majority of Conditions to be Considered.)

Fifth Paper: Convalescent Care as a Clinical Fine Art

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Here we come to consider the most important department of convalescence, as well as the most difficult; at least the most variegated.

We can get along well enough with homely terms; no need to apply the technical words used by alienists to describe mentally distressed and tangle-witted sufferers. The terms applied by experts in morbid psychology (psychiatrists) are unstable at best. Few are familiar to clinicians generally, and those only in part understood.

Many clinicians well trained in nervous and mental vagaries (neuro-psychiatry) seem to get them mixed. They can readily master the phenomena, and deal effectively with the situations created, without so much verbiage.

Physicians doing a family practice would be helped by learning the essentials of normal as well as morbid psychology.

Nervous sufferers and complainers are always with us. We need not assume they will continue always to be. Quite enough is now known and verified to reduce the number to half or less, when we agree on where fancy ends and fact begins.

In this department of healthfare the whole community is called upon to do its bit. The enterprise is a joint one of their selves and ourselves. Each citizen who comes in contact with such patients is obligated to do his part. The right word in season; the "understanding heart," goes far toward restoring mental and emotional balance.

Mere bodily ailments or diseases are relatively simple problems by comparison.

What is Nervousness?

It is less a disease than a wretched state of deranged feelings or temperamental attitudes. It rarely indicates, or leads to, anything more serious than protracted distress. Back of what is observable lies usually the effects of some physical disease. These left overs along with hazy interpretations, form a grievous distress to each and sundry.

The feeling may be kept to one's self. It often is heroically suppressed; only revealed through the weakness due to convalescence from some disease, or through accident or overstress or emotional or other shock. Then, in other instances, a severe sense of nervousness breaks down the protecting barriers of reticence. The sufferer is impelled to choose a confidant and get relief by pouring out the harassed feelings into a sympathetic ear. It is far better to seek a qualified counsellor.

The forms, varieties, types and groupings of "nervousness" are almost endless.

We may describe nervousness as a state of anxiety, of agitation, or of brooding, or of scare so great as to result in gloom, in misery, in dread, in fear, almost in despair. Victims are unable to direct or command their own powers; they cannot pursue the even tenor of their ways. They are then unsure of themselves.

By reason of their extreme delicacy and complexity, the nerve messengers are particularly liable to get out of order. The secrets of the mind are said to be hidden in the nerve cell (ganglions).

Because the nervous structures have become so supersensitive "to any evil wind that blows" they are apt to get out of adaptation. They have no specific background as do sufferers from such disorders as those of the heart, circulation, lungs and digestion, which can be allocated and managed. We cannot give nervous forebodings or actions suitable names.

For want of a better descriptive word some writers suggest the word "neuricity." This might serve to make a crude picture of neuron actions. We are dealing here with not merely complex powers in the conduct of life, but also with nerve centers, stations, sub-stations, or energy reservoirs for special uses in mental convalescence.

The real may thus become reconciled with unreal and better hooked up with thought, ideation and associated mental activities. We may picture "neuricity" as manifesting itself through streams of thought, energy, ideation, plus motion and sensation. Back of that lie the actions of the electron. This is accredited now with being the starting point of electricity.

When neuricity becomes thwarted, turned aside, there follow distressful states or depression or gloom. When raised above a normal level and "going straight" we have states of exaltation. When exhausted nerves are shown, a neuro-asthenia (neurasthenia) follows, which, in turn, leads to further thought disintegration.

What Do Our Friends Understand by the Term Nervousness? What Are Nervous Complaints?

This term comes up so frequently and with such diversities of intent; "does so much business" in explanation and execution, that every intelligent one need—in self defense—to form a fair notion of what the user implies, or the hearer conceives it to be. No word—so it would seem—conveys such a wide variety of forms, of images, of purposes and practices about human ailments. It is called upon to do duty all up and down the scale of altered emotions and their commotions.

The distresses are very real but are based on many unrealities as to causation.

Another hazy term is "the heart of things," used to describe the inmost sources of feelings, beliefs and intentions. Also, what is meant by "principles of action," of conduct or behavior? Next in obscurity is the term, "on principle," as a guide rail to customary doings. If we should determine to go to the root of queer, futile or disturbing situations, we can get excellent help from modern psychology of the feelings and their anomalies. (See writings of Cannon, Walter C. Alvarez, etc.)

That, however, would require a good deal of special study; even to comprehend the terms as used.

When the nervousness and nervous complaints persist and disable, one should seek the counsel of a physician experienced in nervous and mental distresses. It is quite enough for our present purposes to learn the gist of what we are now supplied with, means for going "into the heart of the matter" and of finding a way out; how to drive away "clouds from our consciousness," and to remove the barriers to knowing where we stand now or what mental and emotional snarls we have fallen into. They are, most of them, the consequences of loose, shallow and misleading habits of thinking. Also of trying to

interpret puzzling sensations as to anxiety, pain or other distresses. They are also due to inexact observations of simple enough things and happenings and relationships to other things or people. There often are—as said—grave structural disease effects at work.

Our mental eyes need correcting glasses. When these nervousnesses are pretty severe, they usually have arisen in disturbances of the machinery of thinking and feeling and began long ago; such as childhood shock, fear, dread or explosions of temper. They are wanderings away from straight paths of defense and self-adjustment into tough complexities.

Can we get ourselves straightened out and back into the even tenor of our ways? We can indeed and many so do, especially those who are so blessed as to have been under the guidance of parents gifted with gumption. Those so fortunate have had good trainings of their temperament.

If you were not so fortunate, how much can you now regain of straight thinking? Indeed in great measure by getting your mental glasses changed. The difficulties of handling our own situations for ourselves are many. The majority of people are unfamiliar with the fundamental processes of thinking. It is hard for the nervous sufferer to distinguish between the significant and the insignificant; especially the real and unreal of physical feelings and the merely emotional or ideational.

One position of advantage you can take; and one effort pursue. *Cultivate at all times imperturbability*, balanced judgment and feeling. Remember that nervousness is merely one of the minor disorders of personality.

You often hear the boast "thank heaven I have no nerves." If so, you would be dead. Also "I have plenty of nerve." Or, "he had his nerve with him," that is, his audacity or courage. Language often seems devised to conceal thought. Surely it can obscure.

It is enough for our present purpose to view nervousness as a state of disturbance of the feelings, as an impaired balance between the mental or emotional and the physical realms. Also as the product of queer, cross-eyed habits of looking at, of hearing about, and of doing things. It is an abnormal state of being in which what we think of things differs widely from the things themselves, and from proper appraising of their effects on one's self. Indeed the wonder is less that so many misunderstandings of self do arise, as that so many sound understanding can be had at all. We are here considering those personalities afflicted with so-called "nervous complaints," as they manifest themselves in, or form parts of, states of weakness and of getting over them; or from flabbiness or haziness to sturdiness.

What is Hysteria and the Asthenias? Too Great Susceptibility to Adverse Suggestion

What is hysteria? If or when our mind becomes dissociated—pulled apart or suppressed—we have the most picturesque disorder known. That is hysteria. When it shows itself through explosions we have fits like epilepsy or fighting insanity; "madness lies that way."

Finally if there be a persistent lowering of nerve tone —or tension—we have psychasthenia, or peculiarities, idiosyncrasies, apprehensions, antipathies. Psychasthenia is the background for a host of queernesses. It is a form of nervous disorder in which occur fixed, erroneous ideas, obsessions, or fears (phobias) which may take chameleon-like forms. These fasten themselves in the mind so that an infinite variety of strange phenomena evolve, unnatural impulsions, or restraints, agitations, delirious states or semi-paralyses of the will (aboulia); inability to start anything going, but with good latent power when it can be aroused. Among these evolve moods, strange states of feeling; of unreality. Actual things seem more strange than the imagination can conceive.

Psychasthenia may develop gradually in a neuropathic (sick nerve) soil, or quite abruptly and explosively as from a staggering emotional shock. The obsessions of psychasthenia are of all varieties and phases, such as sacrilege, crime—violent or insidious—shame, remorse; compulsory ideas, extreme conscientiousness about the merest trifles.

Along with these are multitudinous terrors, fears, phobias; a sense of being lost: "Alone, alone, all, all alone, alone on a wide, wide sea" as was the Ancient Mariner.

Do not confound neurasthenia with psychasthenia. There are, in neurasthenia, no characteristic mental disorders.

Neurasthenia is the most frequent of all functional (working forms) of nervous disease. Extreme feebleness renders such victims liable to all sorts of disorders, —inadequacy, fatigue, exhaustion. Also to further dissociation. It is frequently—bear in mind—primarily and to the end—a constitutional defect; not always an acquired disease or secondary weakness.

Such persons are liable to suffer tortures through fear of "losing their minds." This is merely a false or subjective misery. If put through mental tests the mind of such will often be found quite clear; often brilliant for a spurt but not for sustained effort at thinking. Above all we must not expect too much from such as they. They are quite unable to work long above their low, or usual, level.

Then there is the condition (referred to above) called "hysteria"; the most kaleidoscopic of all human ailments; and much too common. It stands next in bewildering features to hypochrondria. They are opposites. The one (hysteria) drives its victim to any lengths of absurd, unaccountable behavior (feeling) and conduct (doing). It takes on whatever shape or features or contradictions that one has ever seen or learned about or imagined. The ailing one is the arch trouble maker—exhibits capabilities for acting parts, which are used deliberately but unwittingly for the purpose of astonishing the beholder. They often surpass any histrionic star ever seen. Indeed for hysteria to arise or continue there must be some sort of audience whom it is the conscious but unflinching purpose to impress. No audience or beholders, no hysteria.

The more sympathetic the onlooker, the more diversified is the show. New forms cease to multiply only as the patient's imagination becomes overtaxed. It is one species of a false sense of happiness. The hysteric is buoyed up by a strange form of vanity; a desire to surpass all others in dramatic quality and picturesqueness. They are those whose gratitude you can win by assurance that the malady is quite unique in your clinical experience. They will pour out their woes endlessly if you will but listen.

The hypochondriac is the eternal worrier; filled with besetting fears—of some personal affliction or disaster, also *dread* of not being able to play the game up to self expectation. "The coward dies a thousand deaths" and half enjoys his experiences. The hysterics may talk little but listen intently and hope you can endorse or pity their distresses. They adore being comforted.

Chronic nervous complainers are, as a class, about evenly divided between these four groups. Those of us who have lived in the company of habitual, cultivated, ace-high, nervous invalids, cherish the opinion—well

justified—that they can be handled on a common sense basis of holding them responsible for the effects of their own conduct.

Each one of us has certain domestic and social obligations to fulfill. If you get out of touch with your household then "retire to the tall timbers" till you recover from that phase of misfitness. It is largely a matter of obnoxious habit formation, mostly your own fault. Often a sort of pride arises, an insistence on fulfilling an unfamiliar rôle you have unwittingly assumed. It is an effective way—but a mighty shabby one—of achieving attention or distinction; of rising into notice above the herd.

How Shall We Negotiate These Temperamental Predicaments?

It is common for those who apply to us for aid to remark: "Doctor so-and-so told me to 'forget it,' or 'to smile,' to 'play there is no such thing as nervousness.'" The same refuge as the Christian Scientists. They mean well; are on the right track, but no such crude concept can supply what is required. The patient should have a careful overhauling of the total situation. Expert counsel should be sought; learn where to get on and where to get off. Some of the conditions may prove serious if neglected or self-suppressed. A full overhauling often brings to light a grave, progressive disease.

The true objective is to bring one's mind back to a sane, well poised fresh start; in line with common principles of conduct. Only then does straight thinking become practicable; a calm facing and handling of realities. "A wrestling with the Angel."

The most precious of human endowments is a smoothly working, a straight thinking and an adaptable mind. Equally valuable is one which responds healthily to hint or help or suggestion when out of order. It has nothing to do with the quality or quantity of intelligence; much less with intellectuality. A priceless boon is teachability, or the capacity of appropriating and using such ideas, or causes of action, as are worth while for them, and adapting them to supply their needs.

Would you appreciate *deserving* a hero medal, whether awarded you or not? Let me submit one definition of what constitutes the real hero: that man or that woman who does, and continues to do, his or her conscientious duty to the family and the commonwealth with gladness and at all costs. Among the highest of these privileges —duties too—is to maintain a fair norm of physical vigor to meet all conditions; and, when suffering from inevitable disease, to maintain a cheerful demeanor.

"Enduring to the end," or failing to do so, is chiefly a matter of habit formation; an embodiment of ideals. It is often a striving to live up to one's own conception of one's own personality.

Along with this is another sort of peril. Lack of candor; too much endurance of pain or distress. This exerts destructive effects upon every active body cell. Margins of safety are thus cut down too closely.

Nervousness Having a Definite and Removable Physical Basis of Persisting Over-Tense Muscles

A considerable proportion of "nervousness" is explainable as due to protracted fatigue caused by local and also general anxiety, over-tension or contractures of the muscles. Such people are perpetually on the edge of exhaustion, hence they are the more vulnerable to any new cause for disorder.

These conditions show in rigid structures, hunched up attitudes; ready to jump, to escape from peril. They are like "the wicked who flee when no man pursueth."

Thus the energies of these pitiable folk—small enough at best—are constantly leaking away like a badly insulated electric wire. The victims are usually quite unconscious of their state. When one takes hold of a limb it will be found that some, or most, of the muscles are "all set"; a quivering and squandering of force.

Fortunately this special handicap can be overcome by a calm judicious search by finger feeling and handling (touch perception) of the structures. Next by explanation, reassurance and *release* of the morbid tension, the spastic rigidity.

This last can be effected by firm tappings up and down certain areas, followed by voluntary head lifting and bending backward. Tell them to "look at the ceiling" so as to make tense the pull-down muscles lying adjacent to the spine. Follow a dozen impacts with full extensions of the back, tapping and stretching for two or three minutes, once or twice a day. Tapping with the finger tips on the affected muscle helps greatly to remove the cramp, or overtone.

The patient should also perform daily backward bending and side bending, thus: standing two feet from a mantle shelf or the wall, place the hands against it and thrust the head far back and alternately to each side. Soon the entire body becomes more flexible and obedient to the will. Then make free movements of various sorts, as with a golf club; a boy's baseball bat will do.

Here, as elsewhere, is shown the beneficence of acquiring poise. The pent up forces thus become released, and the frantic over-tension subsides. This is true whether the tense conditions are unconscious, or are merely sub-conscious, or only perceptible when attention is turned that way.

The state is really one of morbid stiffening; anxiety agitation. The chief cause is a low grade of excitement or dread. This dread puts all the motor machinery on edge, out of tune; thus a chronic fatigue grows; energy is squandered; then intense weariness or near exhaustion ensues.

sensory shocks, such as excessive clamor, raucous sounds, exposures to flashes, to "winking electric signs" and the like harassments. These insults to sense organs are often thrust upon constitutions far more frail, sensitive, and vulnerable, than those of two or three generations back.

Then there are inflictions wrought by another who is of an unstable and explosive temperament; who shows irascibility, ugly temper; who forms sudden reversals of feeling, of opinion from previous attachments; from love and affection to secret loathing or hate. Irritabilities like these grow deplorably in the over-stresses of modern life. These unlovely, choleric brothers or whimpering or clinging sisters thus harass each other till dispositions of each is worn thin and explode.

Such situations represent a slipping back, or down, into infantile states of mind, a seeking refuge in spoiled childishness, in irresponsible actions and reactions; hence they become misfits in conduct and behavior. They shrink from facing realities and seek justification for doing and saying nasty things through escaping into dream states. The refuge is usually some simulated disease. Where they are unable to get their self-balancing equipment to automatically recover right side upness they may tearfully or frantically try this or that way out, but again failing, they resort to wishful thinking or wishful believing and wishful doing. They are too far astray to make a straight go of it, hence lapse into futile, childish lamenting or protesting or raging, or sullenness.

The driving urge is—in most cases—a sense of unbearable boredom, and they strive to get away from

it the easiest way. Any hopeful idea or plan is welcomed and moulded into some acceptable shape and tried out, at least once. The easy and tempting means of escape is to simulate some known disease, substitution or transference. Also they crave to dodge responsibilities; to "crawl from under"; to "play possum", and slip into such easy, negative conditions as the situation invites. Others dread and complain of losing their minds. Such as they, have an "inferiority complex" of a severe type.

Have You Or I Become a Nervous Complainer?

A true answer is of vital importance. If you have —and candid inquiries of your family or friends will soon determine the matter—then you are on the verge of building a barrier between yourself and your dearest bases for ordinary happiness. This fate is only too common among really worth while folks. The toils and sacrifices of a lifetime are often thus brought to naught; frittered away, and frustration follows.

You thereby jeopardize your welcome to the home fireside, the desk or the bench. Life is indeed then scarcely worth living when that is gone. It is a delicately balanced situation on the brink of a wasted life.

Why is the Mind so Potent in Convalescence?

The mind is supposed by many to be so mighty as a healing force that there are also many who prefer to believe it is all sufficient "to kill or to cure."

The brain engine is the chief fountain of life energies. It requires freedom to function through unhindered pathways. If then the ways could be cleared from impulse to response; and could the power be transmitted through to the outlying cells and back again, then we might behold a display of its power that would fill us with wonder indeed.

The mind is coming to be regarded not so much the knower, as the transformer of the power to know and understand life energies exerted through the brain or life engine. Mind power is distributed by means of fleshy tools or instrumentalities, and subject to natural laws only.

The self is thus enabled—through the mind—to acquire knowledge by coming into contact with the manifested universe, the cosmic urges and balancings. Thus man originates and forms his own urges, restraints, purposes and plans. Then the mind puts them into shape and drives them home as things done; achievements won. Man does not know things of themselves but only by their effects, reactions and responses, and as produced upon his psyche or inner consciousness. Mind and body in unison thus serve as doers (effectors).

Critical situations of the self arise all along life's journey. If at such times lucid judgments could be formed and right decisions executed, as the ways were about to part, then could disease be prevented; and when present could be rectified. It would be simply doing the right thing in the right way, and in "the nick of time."

The feelings act compellingly upon conduct and behavior for good or for harm. They tend to overcome and push reason off its base; to throw the self (psyche) out of balance and thus leave one exposed to hurtful counter influences. They act in closest cooperation with the glands of internal secretion. Both these work through the same set of nerves—the self adaptors (automatics), and through the unstriped muscles of the viscera. The effects they induce upon these eminently industrious, but involuntary mechanisms, are not only upon the primary and the secondary functions—such as digestion, appropriation and elimination—but also upon certain functions so recently coming to be revealed: the acid-alkali balance in the physiology of the blood, and the physiology of the atom.

Pavlow demonstrated that the mere idea (imago) or pictured memory of food may become the activator of saliva and even of gastric juice. And equally the other way around: the destructive emotions of fear, anger, sorrow, remorse, may retard or check them.

All strong over-mastering emotions are attended by more or less undefined changes in the circulation which in turn cannot avoid exerting influence upon tissues reached by the altered blood supply.

Exhaustion states, resulting from extremes of destructive emotion, and carried to the breaking point, are probably more hurtful in the aggregate than those from any other source—even the infections. They damage the delicate endocrines and reduce, or degrade, life energies beyond computation.

Especially susceptible to early and adverse influences are those exposed to torrents of irritations, "cellular insults" heaped upon their receiving stations and from diverse directions and with few intermissions. To be sure a certain degree of immunity becomes acquired through repeated mild stimulations of our defense mechanisms but not in all directions nor particulars as we could wish.

In city folk, subject to myriad complexities of crowded centers, the wonder is that any one can and does become enured to such incessant perturbations, as some do. Such ones must be well endowed with prompt and adequate safety devices. The majority are always on the ragged edge of overthrow.

All delayed convalescent states and sufferers have points in common. These points may be visualized somewhat thus: (1) Those dominating the mind and feelings; the structural condition being subordinate. (2) Those of the structures being dominant as extremes of pain and weakness and danger; the mind being subordinate. (3) Those in which both the mind and body suffer in effect about equally.

It might seem this last should be the largest number. The only way to determine differences of degrees is to acquire certain instinctive interpretations of the equation. This is done by keeping in mind the major factors as in the making of a picture displaying the whole.

The aim of healing is always to encourage the constructive, or rather reconstructive, powers in every way; the relieving from pain and other hindrances—physical or emotional or both. Omit in the search no factors which are promising for helping along the others. The term "simultaneous treatment" is a good one; the approach from several directions at once. Always cooperation is the main reliance.

There is always something hidden or self suppressed, or merely unrecognized, as a cause or causes for anxiety, worry, doubt, suspicion or worse things; in short some form of unhappiness. Among these are worries, lack of harmony between members of the domestic circle; next all the total socio-industrial situations, as illness of the bread winner of a family; or the *dread* of not being able to fulfil personal expectations of oneself.

The main objective in all unpleasant states (dysphoria) is to get rid of not only the cause but the disordered states themselves. Many (dysphoric) states are familiar and seem to be inevitable functional confusions. When they do not obtrude upon the inner consciousness (psyche) nor rise above the threshold, then that person is likely to enjoy just as swift and sure

progress in recovery as his or her endowments in organic competence will warrant. The whole organism of course tends to recover balance better as the mental attitude of the patient becomes improved. Every active cell then smiles and rejoices.

1504 Pine Street.

Obstructive Lesions of the Bladder Neck

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The reason for my choice of this subject, which has occupied the attention of urologists for the last twenty years, is to give a résumé of the various medical and surgical aspects which have developed over a long period of time.

Briefly, the subject of prostatism has developed from the discovery and description of the gland by Riolan in 1628. In the beginning of the nineteenth century, several men dared surgical intervention in these cases. Included in the list of names were Mercier, Guthrie, and Thompson. The surgical aspect was also being developed on the continent and in the British Isles. Americans contributed greatly to the advances in prostatic surgery. Such men as Young, Geraghty, Belfield and Squires dealt with the various phases of prostatic surgery. From a surgical standpoint, the prostate can be divided clinically into three lobes, the two laterals and the middle. Mention must be made of the various submucous glands in and around the bladder neck which give definite symptoms of prostatism.

Perineal prostatectomy was first performed by Guthrie in 1834. Such men as McGill, Belfield, Fuller and Fryer added technical features to the operation. Young of Baltimore added the finished surgical procedure to the operation of perineal prostatectomy, and it may be said that Young rightly deserves in this country the credit due the perineal approach. Many men here and abroad resort to the suprapubic prostatectomy, preferring to perform the operation in two stages. I wish to go on record as saying that either type of surgical procedure in the vast majority of cases will remove the obstructing mass. The decision rests with the operator according to anatomical, pathological, and other factors which influence the operator to follow a definite surgical attack.

There is one surgical procedure which I shall take up and that is the second stage of a two stage prostatectomy. The operator as a rule inserts his fingers into the prostatic urethra (watch out that you do not insert them into a diverticulum). It has happened to me once, but fortunately I landed them in the prostatic urethra after considerable struggling. This second stage does not permit of visualization of the interior of the bladder whereby stone, diverticula, and the obstructing mass as a rounded eminence can be seen at the internal urinary meatus. A more surgical procedure is to enlarge the previous cystotomy wound and insert the various retractors. Of late, the tri-bladed retractor of Thompson-Walker suffices. Either enlarging the suprapubic wound or completing the operation in one stage seems to me to be a direct surgical attack. Of course, in a complete operation, it is not necessary for me to state that preliminary catheter drainage is a requisite.

During my stay in Budapest in 1928, the complete operation in one stage was the routine procedure in the clinic. The details of the operation are as follows: Caudal anesthesia plus suprapubic field-block was the anesthetic of choice. Spinal anesthesia in my mind is a very efficient form of anesthesia. In spinal anesthesia, the anesthesia is more intense, but the after-effects are more troublesome than caudal. Of course in any type of anesthesia we have our mortality, therefore the relative value of each is hard to state. I personally like spinal anesthesia. Spinal anesthesia is used with a good deal of success. I mention this not only from hearsay, but have actually seen many prostatectomies under spinal Relatively it was just as efficient as any other form of local anesthesia. With amytal I have had no experience, so deductions drawn would not weigh very much. Caudal or extradural anesthesia plus suprapubic field-block I consider the safest local anesthesia for prostatectomies. The incision for a complete prostatectomy (direct one stage operation) is the classical incision for bladder approach. The bladder is exposed and four retractors are inserted. The prostate looms up in the interior of the bladder, a diverticulum may be seen, a stone or bladder tumor may set the staging. Now instead of an incision into the most prominent part of the gland as practiced by Dr. Bentley Squier, the protruding mass is circumscribed with two lateral concave cuts placed as near the urethra as possible. The superior and inferior cuts join the laterals. After the incisions the adenomatous masses are separated from the false capsule by blunt dissection with a pointed elevator assisted by the assistant's finger in the rectum. The prostate is finally removed digitally, the clots removed, the cavity packed with long strips of iodoform gauze. Various tabs of mucous membrane are cut away. Following this surgical procedure no disfunction of bladder was seen in the follow-up treatment. No hemostatic bags were used.

Following the improvement in the various procedures just mentioned, very precise methods in diagnoses were instituted. Through the advent of the cystoscope with its many advantages, the interior of the bladder could be seen, the type of obstruction could be made out, and nerve lesions simulating obstruction could be diagnosed. Failure to recognize cord lesion, which manifests itself in various bladder disfunctions, led to many cases of incontinence following prostatectomy. With the cystoscope bladder tumors complicating prostatic diseases and also vesical diverticula could be seen. In many cystoscopic examinations the actual performance of each kidney can be seen, especially if indigo-carmine has been given. The opening and closing of the ureterovesical valves (function) can be seen, the condition of the ureteric orifice in inflammatory conditions of the kidney (such as tuberculosis, etc.), tufts of tumors coming down from kidney, and thick, turbid urine as seen in pus kidneys. I could go on and mention many other advantages gained through the advent of the cystoscope. Recently I saw an old gentleman with a moderate amount of residual urine (8 oz.). Cystoscopy was performed. He had a moderate enlargement of the median lobe of his prostate. A tumor complicating the prostate seemed to me to be causing more obstruction to urination than the prostate itself. Through the medium of the cystoscope I decided to attack the tumor. On opening the bladder a

hard mass below the left ureteral orifice was seen which with the slightest touch would blind the orifice. He was a bad risk. I fulgurated the tumor with d'Arsonval high frequency current. Two weeks later I used the Caulk punch on the median lobe. He feels clinically well and quite happy over the result. The moral to be deduced here is that with a precise examination by means of the cystoscope, the proper surgical procedure was adopted, with a happy outcome.

Stone in the bladder oftentimes complicates prostatectomy. About one-half are removed at the time of operation of prostatectomy. Many others can be removed suprapubically, followed by minor surgical procedures on the bladder neck by means of the various punch operations. I feel that the stone crushing operation has fallen into the discard, nevertheless I think it has a very valuable place in urology, of course depending on the nature of the case. We crush a stone so infrequently that by the time we wish to perform the operation, the instruments are out of order. It is almost impossible to purchase a good crushing armamentarium, hence the difficulty. The old instrument of Bigelow was very satisfactory. With the so-called cystoscopic stone crushers I have had no experience, although it seems to me that they have no advantage over the Bigelow.

The next progress in urology came with the advent of preoperative consideration of the function of the kidneys. Many methods of stabilizing the kidney preliminary to radical prostatectomy are in vogue. The kidneys must be decompressed slowly. This is best accomplished by the gradual withdrawal of urine over a period of many days. I prefer an indwelling catheter (on account of its simplicity) regulated by a clamp. Fluids are given the patient and there is a withdrawal of certain amounts of fluid day by day until the stability of the kidney is assured. The kidney status can now be determined by the various renal function tests, blood chemistry, blood pressure, etc. In the meantime the cardiovascular system can be examined and when everything is in the best condition we can proceed to the desired end, viz., the removal of the gland by whatever method we are sure to get results.

In 1910 to 1912 the punch operation was the next advance in urological surgery. Young of Baltimore gave to the profession his punch, closely followed by Dr. Geraghty's punch. The ideal case for the punch operation is a matter of paramount importance. The so-called isolated median lobes, be they inflammatory or neoplastic (if such a classification is permissible) are the chief indications for the punch operation. Various punch devices are on the market. I have had experience with the three following, viz., Young, Collings and Caulk. The matter of choice rests with the operator. Kerwin of the New York Hospital recently displayed a punch with a central pin or needle to fix the obstructing mass, the cutting part of the instrument removing the mass by a rotary motion. Collings' instrument is used through the McCarthy panendoscope with several ingeniously devised electrodes. I have used it on one occasion. My results were not good owing to my lack of experience with the instrument. I recently saw Collings use his instrument at the New York University with admirable skill. I will attempt another séance with it when opportunity presents itself.

Of the Caulk punch I can speak with certainty. It is not difficult to operate and removes the obstructing mass satisfactorily. No hemorrhage of any moment at the time of operation was ever seen. Recently after ten days a slight slough came away and with the slough a certain amount of bleeding.

Now for an argument about just what is prostatic hypertrophy. By the term hypertrophy of the prostate, we mean a hyperplasia of the gland. What causes this hypertrophy? Is it inflammatory or neoplastic? Most men at the age of sixty years, at least 50 to 70% of them, show signs of prostatic hypertrophy. The onset of acute retention occurs after several years of overgrowth of tissue whether inflammatory or not. Do we see as many adenomata developing in the breast as develop in the prostate? Answer, no. Do not many of these cases give a precedent history of venereal or non-venereal infection which, if properly treated, would have prevented the occurrence of such a condition of retention? Geraghty states that hyperplasia develops in the submucous glands. May not this so-called hyperplasia be inflammatory? Therefore, may we not conclude that by removing certain elements of the gland that are obstructing by means of an ingenious surgical instrument (punch) that the condition should improve due to the fact that drainage has been re-established?

I do not wish to state that true adenomatous masses do not exist, for they do, but I feel that as time goes on the development of various minor surgical devices will increase. The indications for the same are fairly clean cut and I believe that as time goes on owing to the infirmity of the patient this method will be practiced more and more. My deductions here are stimulated by the work of Caulk, although I do not guarantee the punch operation for all forms of hypertrophy of the prostate. In concluding this article, how many times have we seen old men with a large, hard prostate. We catheterize these same old men, and all the prostate seems to have disappeared. Why not, then, by various minor surgical devices (punch) can not the same results be obtained? I do not wish to be quoted as saying that the punch is the suitable operation for hypertrophy of the prostate gland in the majority of cases, but in well-selected cases where the amount of tissue which obstructs is not great, or contraindications for a radical procedure are apparent, also as a palliative measure in carcinoma of the prostate, the punch operation has a paramount position in the selection of operative procedure.

390 Main Street.

The Etiology of Foetor Oris

A short article is contributed to a recent issue of the *Lancet*, by Sir Aldo Castellani, Director of Tropical Medicine in the Ross Institute, in which he discusses the etiology of the unpleasant condition known as *"foetor oris."* A chronic pathological condition of the tonsils is regarded as the most frequent cause, and of these chronic conditions he considers granulomycosis as the most important. In this condition granules may not infrequently be found in the crypts, which emit a most offensive odor when extracted and crushed. These granules contain many different organisms, and from them Sir Aldo states that he has isolated and grown two forms of bacilli, which in agar culture produce exactly the same offensive odor as was noticeable in the patient's breath. The smell is most striking in agar cultures kept at 35°C. for 24 hours. These cultures lose their unpleasant odor unless kept in tubes which are rubber-capped, when the odor is noticeable even after five or six days. The odor is not present, or only very slightly, in glucose agar cultures. Sir Aldo describes the two forms of bacilli, and in his article presents the biochemical characters of each.

This condition of the breath in Sir Aldo's opinion is not rare and is invariably of tonsillar origin. In some cases the white granules may be seen in the crypts of the tonsils, in other cases no lesions appear to be present beyond a slight enlargement of the tonsil. Swabs, however, taken from the tonsils and the fauces will reveal the presence of these bacteria by producing when grown on agar the same smell as that noticeable on the patient's breath. Sir Aldo Castellani offers to supply workers interested in the subject with cultures of the two bacilli.—*Canad. Med. Assn. J.*, Aug., 1930.

Hydrophobia Shows Decline

There is a decrease in hydrophobia, or rabies, in the United States in recent years, both in the number of deaths resulting from mad-animal bites, and the number of mad animals reported.

Newer Method of Treating Hemorrhoids by the Injection of 5 Per Cent Phenol Solution in oil

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The slow course which newer methods of treatment must undergo to secure the support of the rank and file of physicians is well illustrated in the development of the injection treatment for hemorrhoids. Forty years ago an authoritative proctologist asserted with reference to injection for hemorrhoids: "I venture to predict that as a popular quack remedy it has seen its best days."

Since then, great progress has been made in the perfection of suitable injection fluids and improved technic, with corresponding decrease in untoward side actions and increase in satisfactory results with return of the rectal wall to normal tonicity and elasticity.

The method now merits such favorable comments as that of the *Journal of the American Medical Association*[1] in 1929: "The injection treatment of hemorrhoids was so viciously exploited by quacks that it was frowned on by most physicians. At present the method is used frequently by reputable proctologists." And that of Beckman[2] in 1930: "The profession should not overlook the fact that at least one non-surgical method of treatment by injection has withstood the test of time . . . it has since won many advocates all over the world."

Of the various causes which in the past have thrown the injection method into disrepute, there may be mentioned the universal use of the method with absence of selective discrimination; use of irritating fluids which have resulted in serious ulcers, sloughs and abscesses; lack of adequate proctological knowledge; and employment of the method by operators who have failed to acquaint themselves thoroughly with the technic.

The method should never be made universally applicable to hemorrhoids as a class; nor should it be undertaken by physicians with only few opportunities to employ it. It requires as much skill and experience as is necessary for surgery. In the hands of rectal surgeons who are fully conversant with its ramifications and with a carefully selected injection fluid, it presents a therapy far superior to surgery in those types of hemorrhoids for which it is indicated.

The purpose of the present paper is to present the technic for injecting a solution which in our experience has given the most favorable results of any we have previously employed. We have had occasion to employ extensively the various formulae which have found favor, including the well-known 5 per cent solution of quinine and urea hydrochloride, which is the injection medium prescribed by Beckman.[2] Our experience has shown that a 5 per cent solution of phenol in cottonseed oil ranks highest in freedom from complications such as ulceration and slough.

For practical purposes we may classify hemorrhoids roughly as external and internal. External hemorrhoids occur below the anorectal line and are covered with skin. They assume the form of tense, bluish, thrombotic, ovoid projections containing blood clots; or the form of skin tabs or tags, which are usually the remains of untreated thrombotic hemorrhoids; or a rare form of dilated, tortuous veins near the anal margin. *External hemorrhoids should never be treated by injection.* Surgery is indicated except in the rare last form mentioned, which seldom requires intervention of any kind.

The field for the injection method is wholly in the treatment of internal hemorrhoids. They occur above the anorectal line and are covered with mucous membrane. The most common form, so prevalent that they are usually designated as just "internal hemorrhoids," are the venous or varicose hemorrhoids. They are tumor-like projections consisting of dilated veins, connective tissue, several arterioles, and nerves. They may prolapse and protrude from the anus. With respect to degree of development, the internal varicose hemorrhoids have been classified as *first degree,* those which remain above the sphincter muscles; *second degree,* those that protrude but may be easily returned; and *third degree,* prolapsed so that they are returned with difficulty. The second type is the so-called nevoid or strawberry hemorrhoid. They consist of a small scarlet mass of capillaries, do not project, frequently bleed, and yield readily to the injection treatment. Frequently they disappear spontaneously.

Untreated, internal hemorrhoids usually give rise to great pain and discomfort, with accompanying nervous strain. They do not tend to spontaneous recovery. Loss of blood in the bleeding type may cause serious anemia. Surgical treatment is effective but conducive to a percentage of recurrence. Using the perfected 5 per cent solution of phenol in oil for injection, we have greatly reduced the incidence of recurrence in uncomplicated hemorrhoids, and consider the method far superior to any we have previously employed. Other investigators have used the formula in a large series of cases, without a single recurrence.

Preparation of the Formula

We have in our practice followed the method of Goldbacher.[3] Goldbacher makes a 50 per cent stock solution, from which he dilutes, as required, to 5 per cent. For the stock solution, he places one pound of dry phenol crystals, C.P., in a clean, dry laboratory flask. He then adds one pint of oil, places the flask in a water bath and heats it to the boiling point, stirring the crystals with a glass rod until they dissolve.

For injection, Goldbacher makes twenty ounces of the 5 per cent solution at a time. To two ounces of the stock solution, add eighteen ounces of oil. Stir well and use. If crystals have reappeared, reheating of the stock solution in a water bath is necessary until it is entirely clear.

A precaution to be observed is that the phenolized oil must be kept free from even a drop of water, for which phenol has great affinity. A drop of water in the injection syringe may cause complications.

Technic of Injection

The syringe best suited for the purpose is the 10 cc., all-glass Luer syringe with slip-on tip. The type of needle contributes greatly to the successful outcome of the injection method. Goldbacher has not found satisfactory either the usual hypodermic needle, the hypodermic needle three to four inches long, or the usual type of hemorrhoidal needle. The depth of insertion of the needle is extremely important and cannot be well governed when using any of these.

Goldbacher has employed satisfactorily a needle with

an adjustable collar moving on a threaded shaft and has also perfected a needle of his own by which the length of the needle shaft may be adjusted as needed.

For injection, place the patient in the lateral recumbent position. Prolapsed hemorrhoids must be reduced before injection, even if it is necessary to resort to divulsion. For exposing the field, the Brinkerhoff speculum or the Goldbacher anoscope-speculum may be used. Inject any bleeding hemorrhoids first, then the larger hemorrhoids. It is good practice to inject not more than one hemorrhoid at a treatment, in order not to cause the patient discomfort.

The amount of 5 per cent phenolized oil to inject will depend on the size of the hemorrhoid. Slow, gentle injection should make the hemorrhoid bulge and become slightly blanched. In very large hemorrhoids as much as 10 cc. may be injected.

To gauge the degree of insertion of the needle, the following points are of primary importance for successful results. Should the needle inadvertently pass through the hemorrhoid and emerge on the opposite side, the hemorrhoid will not become bulged with the injection fluid and another hemorrhoid should be chosen for the immediate injection. It is imperative, too, not to make the injection beneath the submucosa or below the papillary line. Too superficial an insertion will be indicated by the appearance of a white spot at the site of injection. Too deep an insertion will prevent the required "bulging."

The period of treatment usually involves six to eight weekly treatments.

Complications of and Contraindications to the Injection Treatment

The injection method must not be employed for external hemorrhoids. Irreducible third-degree hemorrhoids may require primary divulsion; and, if much swollen and inflamed, surgery may be preferred. In patients with both external and internal hemorrhoids, it is usually advisable to treat the external thrombi first before injecting the internal hemorrhoids, though the process may on occasions be reversed.

Contraindications include a complicating irritable sphincter, which may give rise to excessive pain and extensive sloughing; presence of internal hemorrhoids which have become tough and fibrous, which should be surgically removed; and hemorrhoids accompanied by ulceration of the rectum either near or distant to the hemorrhoids. Injection in the latter instance may give rise to exceedingly aggravating and painful sloughing.

Advantages of the Injection Treatment

The advantages of the injection method over surgery include comparative freedom from pain, no hospitalization and loss of time from business, less expense, no post-operative hemorrhage as frequently occurs in surgery, and no need for general or local anestheia. After injection, properly carried out, recurrence is rare; after surgery, not unusual. Infection after the injection treatment is rare; in surgery, it occurs more frequently, often with serious results.

Whether surgical or injection means are resorted to, the basic causes for the hemorrhoidal condition should be sought out and therapy introduced for their removal.

Conclusions

1. The injection method for the treatment of internal hemorrhoids is now approved by proctologists both here and abroad.

2. The author has found Goldbacher's 5 per cent phenol solution in oil decidedly superior to other injection media.

3. The technic of the injection treatment requires as much, if not more, skill and experience than does the surgical method. It should not be used indiscriminately by the practitioner who only occasionally is called upon to treat hemorrhoids.

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Radiation and Surgical Treatment of Carcinoma of the Body of the Uterus

Cancer of the body of the uterus is most common between the ages of fifty and sixty, 25 per cent occur in nulliparae. Vaginal bleeding and discharge are the outstanding clinical symptoms.

After separating adenoacanthoma and adenomyocarcinoma from the main group, carcinoma of the fundus my be conveniently divided into four histologic grades, representing four degrees of potential malignancy.

Superficial papillary adenoma malignum (Grade I) comprises 14 per cent of the cases, and is the most benign histologic and clinical type. Curettage and adequate intrauterine irradiation followed promptly by high voltage x-ray is the treatment of choice and offers an excellent prognosis in this group.

Adenoma malignum, Grade II, is intermediate in degree of malignancy between Grades I and III, and offers 65 per cent cures by radiation and combined radiation and hysterectomy. Twenty-three per cent of the cases had advanced lesions. The average duration of symptoms was nineteen months.

Adenocarcioma, Grade III, is a more fatal disease than adenoma malignum, yielding only 18 per cent cures. Forty-six per cent had advanced lesions on admission. The average duration of symptoms was thirteen months.

Diffuse or anaplastic carcinoma, Grade IV, is the most malignant type and the most radiosensitive. It comprises 12 per cent of the entire series. Six patients, several with advanced lesions are cured by radiation and combined radiation and hysterectomy. These results are highly significant when compared with operative statistics in which no cures in this histologic type by surgery alone have been reported. Hysterectomy alone is, therefore, distinctly contraindicated in this group.

Adenocarcinoma is a more rapidly growing tumor than adenoma malignum, reaching an advanced stage in shorter time. The difference in prognosis may, therefore, be explained by the difference in degree of malignancy as indicated by rate of growth.

With the exception of the diffuse type (Grade IV), fundus carcinoma is moderately radioresistant. consequently, if radiation is to be relied upon in the complete sterilization of these tumors it must be delivered in an adequate amount.

The results obtained in each histologic group by either method of treatment confirm the validity of a separation based upon histologic structure and demonstrate the practical importance of adopting a suitable method of treatment to each clinical and pathologic type.

The prognosis in cases of fundus carcinoma by partial hysterectomy may be rendered favorable by prompt radiation treatment of the cervical stump. Three out of five patients so treated have remained well over five years.

Inoperable fundus carcinoma, including cases in which the operation offers technical difficulty, is best treated by radiation alone, the results to be expected depending upon the extent of the disease, the radiosensitivity of the tumor and the adequacy of the radiation. In the highly radiosensitive type a cure in a small percentage of advanced cases may be expected.

Intrauterine radiation is the method of choice in the treatment of papillary adenoma malignum (Grade I). In the other three histologic types, radiation alone and combined radiation and hysterectomy have yielded approximately similar results.

The combined results in 82 cases of operable fundus carcinoma treated by radiation alone show 58.5 per cent cures. These results compare favorably with the best statistics in the surgical treatment of this disease and demonstrate that the prognosis of fundus carcinoma may be at least as good by radiation as by surgical methods.

The decision between radiation and operation in operable fundus carcinoma must for the present depend upon the circumstances in each individual case, taking into account such factors as histologic type, technical operability, stage of disease, general or constitutional and local complications.—W. P. Healy, M.D., and Max Cutler, M.D., in *Amer. J. Obs. and Gyn.*, April, 1930.

Familial (Hereditary) Epistaxis

With and Without Multiple Hemorrhagic Telangiectasia, and Other Hemorrhages (Rendu-Osler-Weber's Disease). Review of Literature and Report of Cases.

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Nosebleed or epistaxis (nasenbluten) has been an important subject for discussion since Biblical times. It was one of the earliest complaints treated by medical men and healers.

In the study of the subject of "Epistaxis", I reviewed the medical literature for the past three hundred years—but especially, the reports published since 1830.

Fabricius Hildanus (1560-1634?)

Hemorrhage from the nose. Pub. 1718.—Fridericus Hoffmann (1660-1742)

Fabricius Hildanus (1560-1634?)

Hippocrates (450 B. C.-357 B. C.) in Epidem. Lib. I. Aphor. 33—spoke of vicarious menstruation (rhinorrhagia) through nosebleed. Hippocrates remarks that those who have confirmed nosebleed into a habit, are young persons apt to incur diseases of the chest, pleuritis, pneumonitis, hemoptysis and consumption, probably owing to a metastasis of the nasal irritation to the lungs. But such not taking place, it is held to have a contrary effect, or preventive of pulmonary affections.

Nasal hemorrhages may be very profuse, thus Johannes Rhodius (1587-1659) of Padua, in his "Observationum Anatomico-Medicarum Centuriae Tres" (1657, I b, also Frankf. (1676) mentions a case losing 18 pounds of bloods within 36 hours. Bartholin's patient lost 48 pounds, a writer in the Leipsic Acta Erudita mentions a patients losing 75 pounds within ten days.

The Ephemera of Natural Curiosities contain a case report in which the patient bled from the nose without cessation for six weeks. In 1820, Professor Chapman treated an elderly gentleman who lost several quarts of blood and mentions two cases who bled to death. Claudius Galen (131-200 A.D.), Fabricus Hildanus (1560-1634?), Coschwitz (1616), J. Rhodius (1587-1659), Henricus Petraeus (1589-1620), Rumpler (1615), Fredericus Hoffmann (1718-1740), Sebizius (1630), Kau (1710 Jena), Block (Jena, 1679), Taunton (1880), Sutton (1864), Babington (1865), Albert Rosenberg (1900 Berlin-Vienna), and others too numerous to mention, have discussed nosebleed or epistaxis associated with various diseases and different constitutions and often leading to fatal results.

Thus, Albert Rosenberg,[140] of Berlin, in Handbuch Der Laryngologie und Rhinologie, Vo. III, 2 Halfte, by Professor Paul Heymann, Pages 697-722, Vienna, 1900, writes on "Das Nasenbluten" giving 369 references to the literature on the subject from Hippocrates, 400 B.C., to Hastings, December, 1897. Fredericus Hoffmann (1740) long ago remarked that persons with frequent and profuse epistaxis, when young, had a peculiar constitution like that observed in "bleeders" and also similarly discussed by Laycock in MEDICAL TIMES, Page 501, May 17, 1862 (London). Hoffmann observes "observamus porro, omnes fere' eos, quibus sanguis copiosus et frequentius in primis annis per nares erumpit, natura valdé imbecilles, animo quoque sensibiliores, variisque morborum afflictionibus, spasmis et doloribus per omnem feré aetatem subjectos esse; rarius etiam vitam diu protrahere; quippe in juventute in phthisin inclinent, in consistente aetate in malum flatulento-spasmodicum sive hypochondriacum facile incident, atque aetate provectiori ad dolores nephriticos et podoagricos multum proclives sunt." (Hoffmann—Medic. rational systemat. Pars. II, Sect. I, Cap. I u. Opusc. physiocomedica, p. 196, 1740).

Thomas Laycock,[107] of London (1862), in his lectures on The Haemorrhagic Diathesis and Haemoptysis says "epistaxis is a symptom of considerable significance, although generally overlooked in persons of phthisical habits." He has often noted it as being premonitory of future haemoptysis, and often, too, observed it as coinciding with intercurrent attacks. In many of his 227

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cases of diathetic "bleeders", it was noted that the bleeding was nasal (about one-half of the cases) and he found that epistaxis, haemoptysis, haematuria, and haematemesis succeeded or alternated with each other or were "metastatic". He emphasized the fact that epistaxis, repeated and profuse attacks about puberty in certain constitutions *do* indicate a tendency to haemoptysis and tuberculosis subsequently.

Laycock, Chapman[35] (1839), Sutton[166] (1864), and what is called hemorrhea purpurea." Aristotle, Theophrastus, Lucan, and Huxham speak of these hemorrhagic "spots." I am of the opinion that these old writers saw cases of epistaxis with telangiectatic skin and mucous membrane lesions.

C. Hanfield Jones[92] (*Medical Examiner,* London, I, Nos. 46 and 47, p. 806 and p. 823, Nov. 16th and 23rd, 1876) in his "Clinical Lectures on Epistaxis"—does not mention telangiectasia and familial epistaxis. He says,

Fridericus Hoffmann
(1660-1742)

Fabricius Hildanus
(1560-1634?)

Johannes Rhodius
(1587-1659)

others believe there was a class of cases in which the hemoptysis and the nosebleed recur from time to time rather as a hereditary or a rheumatic than a tuberculous affection, the condition being a "constitutional epistaxis" or "hemoptysis." Laycock (1862) further speaks of mitral constriction as a source of hemoptysis and epistaxis and their close relation to rheumatism. He emphasized the hereditary relationship of nosebleed and blood-spitting. He concludes by saying that the hemorrhagic diathesis presents many of the peculiarities of the rheumatic or gouty, whether we regard the age, sex, hereditariness, tendency to articular affections, or the exciting causes of the periodic or paroxysmal bleedings.

Hoffmann[87] (1740), Taunton[168] (1830), Chapman[35] (1839), Babington[14] (1865), Rosenberg (1900), Fröhlich[63] (1891) and many of the other older writers recognized the importance of heredity in relation to repeated and habitual nosebleed. It has also been emphasized that attacks of nosebleed frequently precede attacks of acute rheumatic fever.

Professor Chapman, who was Professor of Physics, University of Pennsylvania, prefers the term "hemorrhagia nasi" to "epistaxis" (*Medical Examiner,* Phila., Feb. 23, 1839, II, No. 8, pp. 117-118). Rosenberg (1900) prefers the term "hemorrhagia narium" or "rhinorrhagia." Chapman says (Jan. 5, 1839) those with short neck and large head are prone to have epistaxis or apoplexy—while those with narrow, ill-shaped chest, are equally subject to hemoptysis. Nor is it uncommon for *whole families* to be thus distinguished, and who, in some instances, seem to derive the peculiarity by inheritance. He refers to instances reported in Andral's work on Pathological Anatomy, and in an Essay on the subject by Dr. Reynell Coates, in the *North American Medical Journal.* He mentions the writings of Morgagni, Bichet (Anatomie Generale), and Marendel.

Marendel found no ruptured blood-vessels in these fatal cases of vital (spontaneous) hemorrhages even with the microscope. Chapman speaks of "the dermoid usually effuses in the shape of petechiae or vibices, or however, that " in these hemorrhages, the deterioration of the capillaries seems to be the essential morbid change."

Valsalva knew that nosebleed occurred more often from the anterior portion of the septum (dos knorpeligen septums), he also knew that—"sanguifera vasa intra nares valde turgida circa eam sedem, ubi alae nasi digito plus minus transverso ab imis naribus cum osse committuntur."

Dr. Marvin, of Geneva (*Journ. de med. et de Chirurg. Practique,* 1872) stated that as blood in epistaxis generally came from only one nostril, and most frequently from the anterior third of one of the nasal fossae, he was led to believe that by compressing the corresponding facial artery on the superior maxillary bone near the ala of the nose, the afflux of blood would be diminished and the hemorrhage at once arrested.

Dr. Brunner (*Hufeland's Journal*) stopped epistaxis by blowing powdered gum arabic through a quill into the nose. In the *Philadelphia Monthly Jour. of Med. and Surgery,* I, No. 2, p. 102, July, 1827, a case is reported of a young man, aged 19 years, who continued to bleed until stopped by this method.

Fabricius (Guilhelmus) Hildanus (1682) in his *op. observ. et curat. med. chir.,* reported a young married man who had severe nosebleed after each coitus.

J. Rhodius mentioned nosebleed following smelling a rose.

T. A. Hall (*Virginia Medical Monthly,* 1896) says the powder of fungus myces (F.), commonly known as "devil's snuff" has invariably stopped epistaxis when snuffed up the nostrils.

In "Epidemics," Liber I, in the Third Constitution, Paragraph VIII, Section 2, Hippocrates speaks of epistaxis as one of the four modes by which ardent fevers (or causi) came to a crisis. When in these attacks of ardent fevers there was a proper and copious hemorrhage from the nose, they were generally saved by it, and "I do not know a single person who had a proper hemorrhage who died in this constitution." The hemorrhages attacked most persons, but especially young persons and

those in the prime of life, and the greater part of those who had not the hemorrhage died. In certain individuals, he says, both the hemorrhage from the nose and the menses appeared at the same time.

Winstead[102] (1858) stopped severe nosebleed by cold, wet applications to the scrotum.

Rosenberg[140] (1900) in his paper says Hoffmann recognized the importance of heredity in cases of nosebleed. He mentions a case of epistaxis in a child, whose father and four brothers suffered from epistaxis. Among 27,000 patients of the University Poliklinik for Throat and Nose Diseases (Berlin), he found 367 instances of nosebleed of which 247 were in males and 120 in woman. The largest number occurred in the period of puberty; 101 were between 15-20 years. He mentions a case of a young girl, age 15 years, who had not menstruated normally, but who bled irregularly from the nose, and a woman who missed her periods for 5 or 6 months without pregnancy, and who suffered from epistaxis for six weeks when she was seen by Rosenberg. He found nosebleed to vary with climate and seasons—the largest percentage of cases occurred in May, June and July.

Obermeier mentions an interesting case in a young man who bled from the nose every month for 3 days since the age of 15 years.

Rosenberg mentions severe nosebleed at times after postoperative menapause.

Hubbard reports a pregnant woman who died from profuse nosebleed.

Urbantschitsch, Taubhert and Blondeau noted pregnant women who aborted after nosebleed.

Blondeau (*Gaz. des Hop. nr.* 149/51, 1874), recorded a case of a pregnant woman who aborted following blood transfusion for epistaxis.

Under the term nosebleed or epistaxis (nasenbluten) as used in this paper, we include bleeding from the nose, the source of which is to be found *in the nose. Bleeding from the nose,* as may occur in hematemesis, hemoptysis, post-operative (tonsillectomy and adenoidectomy) conditions, vegetative adenoids, ulcerations and new growths of the naso-pharynx, middle-ear bleeding, fracture of the base of the skull, etc., is not included. Nor are we considering the numerous other *causes of nosebleed* as may occur in leukemia, purpura, hemophilia, the anemias, cirrhosis of the liver, cardiac decompensation, valcular disease (mitral stenosis, etc.), nephritis, uremia, hypertension, arteriosclerosis, sun-stroke, vicarious menstruation, coitus; scorbutus and other deficiency diseases; masturbation (Peyer, 1889), hypertensive heart disease (with left ventricular hypertrophy), essential hyperpiesia, amyloidosis (amyloid degeneration of the liver and kidneys), acute endocarditis, rheumatism, typhoid fever, influenza, pneumonia, relapsing fever, (Tennent, 1871), malaria, pyemia, septicemia, morbus maculosus Werlhofii, variola, erysipelas, typhus fever, psittacosis, scarlatina, diphtheria, whooping cough, syphilis, morbilli, Voltolini's and Hajek's perforating ulcers, angiomatous polyps of the septum, malignant tumors, foreign bodies, parasites, worms, benign new growths, high elevations, trauma, and (finger) picking of the nose.

We limit ourselves in this paper to a discussion of a definite clinical entity, namely, cases of hereditary (familial) nosebleed occurring in families and often associated with telangiectatic lesions of the skin and mucous membranes. Other types of bleeding in members of such families have been reported during the past fifty years.

The hemorrhages in some of these cases may not only occur from the nose but also from the stomach (Osler, 1907), Weber, Hale, White, Hutchinson and Oliver, and Barford, Jan., 1926), the bowel (T. C. Fox, 1908; Harper, 1929), the kidneys, and bladder, the lips, the tongue (Goldstein, 1921; Harper, 1929), the bronchial tree; and the cerebral vessels as reported by Archer (1927) and as occurred in the patient one of us (H. I. G.) reported in 1921, giving rise to an attack of apoplexy with hemiplegia. Mekie (1927) mentions an affected cousin of his patient who died at 28 from a ruptured vessel in the brain.

Cases of nosebleed in several members of a family may occur, without a definite history of the presence of telangiectasia. However, in some instances, as was well shown by Fitz-Hugh (1923), other members may be thus affected (with skin lesions) in future generations. He believes an atavistic tendency in this condition has been demonstrated. He has noticed atavistic skipping of a generation in seven cases. Foggie's family shows this atavistic tendency.

Gossage[73] believes that in some of these families many of the children die young, before an opportunity has been afforded to know whether they would also have been similarly affected—which accounts for fewer affected ones. He says "the condition of multiple hereditary telangiectasis seems also to be a dominant to the normal condition."

Henle[85] believes the condition acts as a simple dominant with some variations.

It is also true, we believe, that cases of familial hematuria (Apert, 1907; Foggie, 1928; Attlee, 1901; Pearson, 1904; Aitken, 1909; Guthrie, 1902; Hurst, 1923, and Grandidier), familial hemoptysis (Libman and Ottenberg, Dec., 1923, and Mantchik, 1922), familial hemorrhagic nephritis (Hurst, 1923), and hereditary hemorrhagic telangiectasia, with or without familial epistaxis, are all properly classified under the same heading.

H. Gawen Sutton[166], Assistant-Physician to the Metropolitan Free Hospital, in the December, 1864, issue of the *Medical Mirror* (Pages 769-781), in a thorough manner discusses "Epistaxis as an Indication of Impaired Nutrition, and of Degeneration of the Vascular System." He emphasizes the important part played by imperfect nutrition and degeneration of the vascular (capillary) system. He discusses the well-known fact that those that bleed habitually from the nose are more liable to certain diseases than others. Thus, he shows that it frequently occurs in individuals subject to rheumatic fever, hemoptysis and phthisis in adult life.

J. J. Kamm[94] (1745) in "De Haemorrhagiae narium in junioribus nimiae noxis" (Argentorati), also observed that there is a connection between the epistaxis of youth and the hemoptysis and phthisis of adult life.

J. Haan,[78] two hundred and twenty (220) years ago in "De hemorrhagia narium" (1701, Argentorati) reported similar experiences.

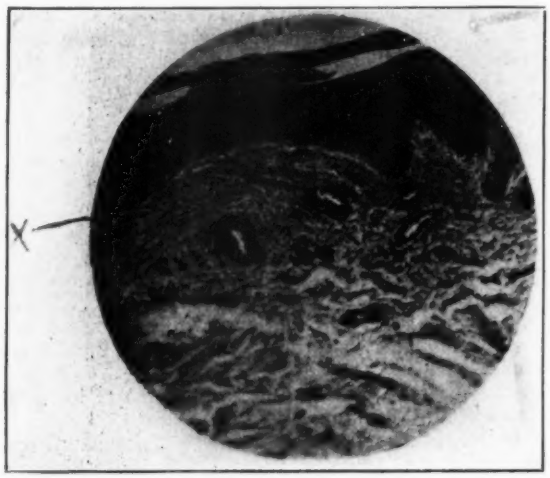
Laycock[107] (1862), stated that he has often noted epitaxis as being premonitory of future hemoptysis.

French in his "De Curandis Hominum Morbis," stated "that young people who had been subject to oft repeated nasal hemorrhage have to fear hemoptysis, and that hemoptysis is hereditary in some families, and those liable to it may succumb in the flower of their age to this hemorrhage or to consumption."

Chomel has stated in his essays on rheumatic fever that Hippocrates said, in the end of the 2nd volume of Prorrheticon, that those who had been subject to epistaxis in their childhood and youth are particularly predisposed to arthritic fevers. Chomel found that one-third of those who had rheumatic fever had previously suffered with nosebleed.

Sutton[166] (1864), too, has found that of 31 patients suffering from rheumatic fever, 21 had had epistaxis. There are patients who have previously suffered from

rheumatic fever who later have repeated attacks of epistaxis. He reports a case of a lady, age 74 years, who had severe attacks of hemoptysis, and bled profusely from the nose when a young girl. He reports a case of a woman, aged 46 years, who bled from the nose when a child, and now was suffering from hemoptysis. Her father suffered from a "ruptured blood-vessel of the



Section through small telangiectasis (angiomatous lesion). X—Epiderm-corium (border) junction.

lungs" and hemoptysis. An only brother, who died of inflammation of the lungs, also had hemoptysis and for a number of years before her brother died, he often bled profusely from the nose. Her three sons all bled from the nose. An only daughter, aged 28 years, had never had attacks of epistaxis.

Sutton[166] reports a second family in which there were three brothers who had nosebleed. One brother, who died at 31 years of age, bled profusely from the nose, for many years, before he began to spit up blood ("pints"). Another brother, who had suffered from epistaxis, was later laid up with rheumatic fever.

Sutton says that epistaxis is hereditary in some families has been asserted by so many physicians that it would be difficult not to believe that it is so. It is important to remember that there is a connection between epistaxis of youth and rheumatic fever, and valvular disease, hemoptysis and phthisis, of adult life.

Hoffmann,[87] also, has stated that those who suffer with frequent and copious epistaxis in early years, are often subject in youth and adult life to hemoptysis and phthisis, and in middle age to gravel and gout.

Sutton tabulates eighty-three cases of phthisis and shows that of this number fifty-two had had epistaxis, at some periods of their lives. He also found that during phthisis, epistaxis often occurred before the hemoptysis.

J. C. Taunton[108] (Article III, June, 1830, p. 489, IV, No. 24, *London Medical and Surg. Jour.*), Surgeon to the City of London Dispensary, reported his own case of recurrent epistaxis for twenty years. His parents were apparently healthy.

Boenninghaus,[27] of Breslau (1923) speaks of habitual nosebleed in patients he has seen off and on, during twenty years, bleeding from "Vena liminis" and not from "Locus Kiesselbach of the Septum." He mentions that Valsalva knew of this source of habitual nosebleed, and stopped the hemorrhage by means of finger pressure. Boenninghaus stopped the bleeding point with the electric cautery or the chromic acid bead.

Fröhlich,[68] of Cassel (1891, *Der Artzliche Praktiker*), reported a young patient with recurrent severe nosebleed, —a brother died from epistaxis, his only sister bled profusely since the first menstrual period. No mention is made as to the parents bleeding from the nose.

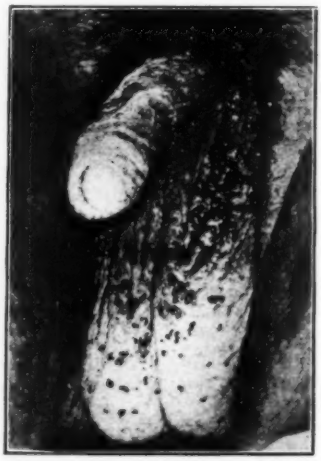
Korstakow (1886) mentions a case of menstruatic precox—with severe periodic epistaxis.

Fricker (1844) reports fatal nosebleed of vicarious menstruation.

Barford[18] (1926) reports two cases of recurrent gastric hemorrhage without organic lesion and associated with other hemorrhages. In one case there occurred recurrent severe hematemesis with occasional epistaxis and hematuria.

Hurst (1923) reported sixteen (16) individuals in three generations suffering from hereditary familial congenital hemorrhagic nephritis. These cases were similar to Guthrie's (1902) series of congenital hereditary and familial hematuria. Up to 1912 Hurst could only find records of two other families similarly affected. Since 1912, he says (1923) he learned of two additional families through Dr. W. W. D. Thomson, of Belfast.

E. Libman[111] and Reuben Ottenberg[111] of New York (Dec. 15, 1923), reported seven members of a family suffering from rather profuse hemoptyses at intervals for years, beginning at puberty—or in early adult life and not seriously impairing the general health. Tuberculosis was excluded. No telangiectases were seen in the upper air passages bronchoscopically. No mention is made of telangiectases in any other part of the body. In the cases recorded the condition seems not to skip generations. The coagulation time was normal. Blood platelets were normal. They say that "if the condition is due to telangiectases, they must be localized in the finer bronchi or in the pulmonary tissue". They were unable to find a similar report to theirs in the literature. "Idiopathic familial hematuria", reported by Apert, is



Telangiectasia of scrotum and penis—
From *Archives of Internal Med.*
Head (1917)

mentioned as perhaps being "comparable" with their cases.

It seems probable, according to F. Parkes Weber,[187] of London (1924), who has studied this subject extensively, that "gastrostaxis" cases, as reported by Sir William Hale White, and we may add, those reported by Pons, Meine and Blenkle (Feb., 1929), before our New Jersey State Society, may have been of similar telangiectatic origin.

Pons, Meine and Blenkle (*Jour. Med. Society, N. J.,*

XXVI, p. 143, Feb. 1929) did not mention telangiectasia as a possible cause for the hematemesis in their cases.

Foggie[59] (*Edinburgh Med. Jour.*, May, 1928, p. 280) of St. Andrew's University and Dundee Royal Infirmary, reports a case of a woman, aged now 47 years, who suffered from hereditary hemorrhagic telangiectasia

Telangiectasia of face—From *Quarterly Jour. Med.* —Osler (1907)

with recurring hematuria. He was able to collect 41 reported families—and with his family making altogether 42. He includes the 31 family groups one of us (H. I. G.) was able to collect from the literature of the world up to 1920, inclusive, and reported in January, 1921. In that paper were not included the cases of familial nosebleed mentioned by Sutton (1864), and Rosenberg (1900), and the case reported by Professor Vincent Tanturri, of Naples (*Morgagni*, XXI, Aug. 1879), under the title of "Un caso Di Dermostasi Venosa generale ed idiopatica". In this case no mention is made of epistaxis or other recurrent hemorrhages. The girl was 14 years of age and had generalized telangiectasia.

Babington[14] (1865), Richardson[143] (1927), Boston (1930), Goldstein[70] (1922), reported cases of familial (hereditary) epistaxis. In 1922 one of us (H. I. G.) reported several cases of recurrent nosebleed in one family and recently we met with another family in which several members (father, sons and daughter) bled profusely from the nose.

Foggie's patient gave a history of nosebleeding in five generations associated with telangiectases. She only occasionally bled from the nose, but bled from the urinary tract for twenty years, due to these vascular dilatations.

T. C. Fox[60] (1908) reported a case of bilateral telangiectases of the trunk with a history of marked epistaxis in childhood and recent rectal bleeding.

Erasmus Wilson, of London (*Jour. Cutan. Med. and Dis. Skin*, London, III, pp. 198-199, 1869), under "Clinical Memoranda" and the subtitle of "Eruptive Angiomata" reports a case of a publican, aged 30 years, who had copious bleeding from the gums and epistaxis and an eruption of red papulae on the face, neck, hands and arms—"Angeiektasia" or Multiplication and hypertrophy of the venous capillaries of the skin. He says "the case is very rare". He thought this was a sudden eruption of "angeiomata and associated with hemorrhage from the mucous membrane of the nose and mouth". He fails to mention other members of the family with this condition.

Kalischer (1901), reports a case of Telangiectasia (Angiom) of the face and "der Weichen Hirnhaut" (Meninges) (*Archiev, f. Psychiat*, Berlin, 1901, Bd. 34; pp. 171-180).

R. H. Kennan, of Sir Patrick Dun's Hospital (April 30, 1902), reported a typical family with telangiectasia and epistaxis. Kennan mentions Osler's report in the Johns Hopkins Hosp. Bull., November, 1901. Osler, however, overlooked several previously reported cases of familial epistaxis, and of hereditary telangiectasia. He includes several of these in his second paper in the quarterly *Journal of Medicine* (London), October, 1907, with colored plates of A. Brown Kelly's (1906) case.

Rendu (1896) was the first to associate the tendency to epistaxis with multiple telangiectases as manifestations of a distinct clinical entity, now, however, frequently called "Osler's Disease".

Time will not permit to review the additional cases reported from 1876 to 1930. Suffice it to say, that Coe 1906) reported, erroneously, a case as hemophilia which was reported as a typical case of "hereditary telangiectasia" by Osler, and that since Legg (1876) and Chiari (1887) reported their cases there have been reported a total of 65 families and about three hundred and fifty (350) individuals suffering from hereditary (familial) epistaxis with hemorrhagic telangiectasia, including Goldstein's cases reported January, 1921 (*Arch. Int. Med.*) and in 1922 (*Jour. Med. Society N. J.*, 1922, p. 50), and including Koffer's cases (1908). Since the publication of Goldstein's first paper there have appeared a number of excellent reports on the subject. It might be of interest to list all the typical and atypical cases reported to date. However, we shall limit ourselves to the more easily accessible and available reports.

Recently, Professor Rudolf Schoen[151] of the Morawitz Clinic, in the University of Leipzig, reported two

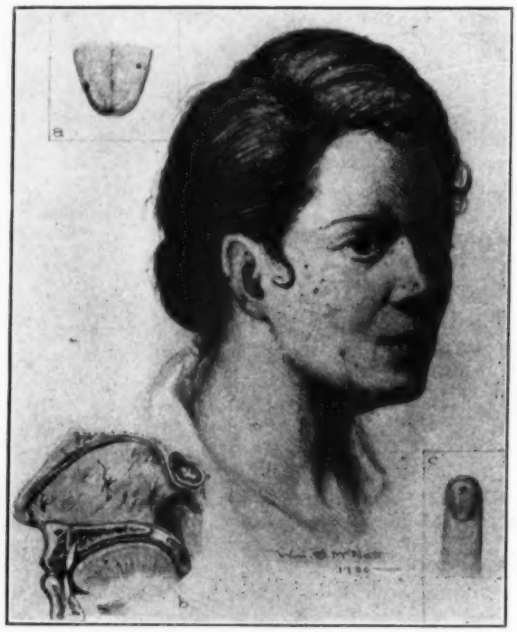
Telangiectasia of face—From Prof. Schoen, *Morawitz Klinik*, Leipzig, 1930.

cases of "Familiare Telangiektasie Mit habituellen nasenbluten," (affecting 4 generations), in the *Deutsches Archiv fur Klinische Medizin*, Bd. 166, Heft 3/4, 1930.

A. Arrak,[9] (1925), of Masing's Clinic, in the University at Dorpat, Estonia, reported two families with hereditary hemorrhagic telangiectasia (*Deutches Arch. f. Klin. Med.* 147, June, 1925, pp. 287-291).

Dore's[40] (1927) case of multiple familial telangiectases was a woman, aged 56 years, who had multiple

telangiectases for 14 years. She had them also on the tongue, lips, hands, under one nail, a few on the body. She suffered from frequent nosebleed. Her mother had multiple telangiectases. Patient does not know whether other members of the family were similarly affected. Electrolysis was tried. Dore used carbon dioxide (CO_2)



Showing telangiectases under finger nail (c), nasal septum (b), tip of tongue (a), and scattered over face. The tip of tongue and finger bled profusely at times.—*International Clinics*, Phila. (1930)

snow. This was the third case of the kind Dore has seen. One of the patients (a man) said that the condition had been known in his family for a hundred years. The third patient was a young woman, but no other members of her family appeared to be affected.

F. Parkes Weber,[188] of London, in discussing this presentation, said that "though the tendency was inborn, the lesions of the skin and mucous membranes manifested themselves or were often first observed at relatively late periods. The nosebleeding, however, was often noted earlier."

R. A. J. Harper[81] (Apr. 1929) reports a case of a man, aged 45 years, who had hemorrhages from the nose, gums and tongue. He had red "spots" on the cheeks and ears, tongue, gums and palate. Epistaxis was frequent. Stools were black at times. No blood in urine. His father and a sister (47 years of age) and her two younger tons suffer similarly. The patient himself has seven children, three sons are well, while four daughters are all affected.

Willis C. Lane[104] (Mar. 1916, University of Maine), reports cases of "Hereditary Nosebleed", but no mention of telangiectasia is made.

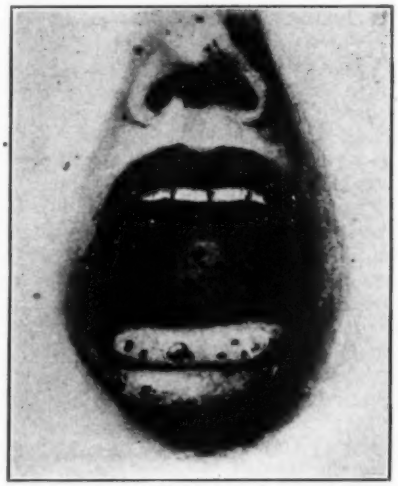
Schwartz,[153] of Minneapolis (1925), reported a case in a woman, aged 49 years. She suffered from severe nosebleed since the age of 14. She had, also, severe hemorrhages from the tip of the tongue and from the tip of her right little finger. She had redish "spots" on her face, tongue, soft and hard palate, nose, conjunctivae, auricles, cheeks and hands, for many years. Her mother died of frequent and almost uncontrollable nasal hemorrhages. The coagulation time was five minutes, bleeding time, two and one-half minutes.

Curschmann[40] (April, 1930), of the Medical Clinic of Rostock, reports two families with familial epistaxis as an expression of "pseudohemophilia". He overlooked, entirely, the extensive literature now available on the subject of familial epistaxis and hereditary telangiectasia—("Rendu-Osler-Weber Disease). Because of the free nosebleed in all these cases, Curschmann calls it "mono-symptomatic bleeding without thrombopenia and without hemophilia." He advises the use of Roentgen ray therapy over the spleen. Curschmann's first case, a man, aged 54 years, had a large spleen.

Kozach, of Hamburg, in discussing Curschmann's paper before the Northwestern German Association for Internal Medicine (at Hamburg-Eppendorg), January 31, 1930, mentioned a family suffering from epistaxis.

Thomson and Mason Lamb (1928), of Birmingham, England, reported a case of an unmarried woman of 30 years who had severe bleeding from the mouth during the night, lasting nine hours continuously. The blood "ran in a stream out of her mouth". Since the age of 12 years she had had severe bleeding from the nose. She also bled from the ear, scalp and lip. Her father, paternal grandfather and one of the father's cousins wer similarly affected. One of the father's brothers died at 14 months, following hemorrhage after operation for a nævus (in 1876 or 1877). The patient's coagulation time was one minute and thirty seconds. The blood-calcium and cell fragility were normal. Blood Wassermann was negative. They discuss Sir Thomas Lewis' theories and explanations for the development of telangiectases.

Williams[191] (1926) reports instances of hereditary hemorrhagic telangiectasia with nosebleed in four families. He believes that the disease is "exceedingly common". While, perhaps, many cases go undiagnosed, we do not believe that the familial hereditary type of this conditions is so very common. We agree with Williams that the hereditary character of this condition is neces-



Telangiectasia of lips, tongue and palate—From *Quarterly Jour. Med.* (1907)—Osler, Oxford, Eng.

sary for a correct diagnosis—and it is precisely this feature which is sometimes difficult to establish. Further, that the essentials of the disease entity described here are as follows: (1) The occurrence of nosebleed in childhood, often recurring throughout the life of the patient, and sometimes associated with bleeding from other mucous membranes—stomach, bowel, bronchi, gums, etc., and even from the skin, lips, ears, fingers, conjunctivae, tongue, and meninges. The bleeding may

decrease, but very often becomes more serious and may even prove fatal as the patient grows older. The mother of one of my cases died as the result of the severe nasal hemorrhages. (2) The development of telangiectases, sometimes as *dilated capillaries,* or as aborescent, *distended venules,* or as small pinkish or dark red "spots", smooth and uniform without visible venules which disappear completely on pressure—often only pin-point in size. They may appear suddenly and last for several years and then disappear. *Small nodular forms,* raised, and of bright red or purplish color may be met with. These were formerly thought to be associated with malignancy of the stomach and liver. We also meet with *spider forms* (naevus araneous type), often seen on the cheeks and eyelids of children and young patients. The *mat form* being large lesions, sometimes seen associated with cirrhosis of the liver and leukemia and lastly, the *generalized form of telangiectases,* noted by Osler and so thoroughly discussed in one of the best papers on the subject by Becker, of Chicago (1926). In this paper we are discussing only the multiple hereditary forms of telangiectases associated with recurring hemorrhages, and present in several or many members of the family and in several generations. (3) The occurrence of these symptoms in several members of the family is essential for the diagnosis. We may have, however, in some members of the family, hemorrhages from the nose alone or from other parts of the body, with or without hemorrhagic hereditary multiple telangiectasia.

Time will not permit the review of many interesting cases of this clinical entity. We will simply list the typical and atypical cases reported in the entire medical literature of the world since 1830.

Typical cases of hereditary hemorrgahic telangiectasia with recurring epistaxis and other hemorrhages: Wilson (1869), Legg (1876), Chiari (1887), Chauffard (1896), Rendu (Oct. 23 and Nov. 24, 1896), Osler (1901), Josserand (1902), R. H. Kennan (April 30, 1902), Kelly, A. B. (1906), Coe (1906), Hawthorne (Jan. 13, 1906), Osler (1907), Weber, F. P. (1907), Gottheil (1907), Kofler (1908), Ballantyne (1908), Semon (Jan. 10, 1908), Waggett (1908), Phillips (1908), Hanes (March, 1909), Langmead (1909 and March, 1910), Laffont (Oct. 30, 1909), Audry (Jan. 1911 and 1920), Osler (1911, mentioned by Steiner, 1917), Van Wagenen (1912), Sequeira (1912-1913), Gjessing, E. (1916), Hutchinson and Oliver (Jan. 1916), H. B. Richardson (1917), Steiner, W. R. (1917), Paul, S. N. (1918), Gundrum (March, 1919), Goldstein, H. I. (1921), Freudenthal, W. (1921), Goldstein, H. I. (1922), Fitz-Hugh (Dec. 1923), Schwarz (1925), Gulland, G. L. May 19, 1923), East (Oct. 12, 1923, and Feb. 13, 1926), A. Arrak (June, 1925), Emile-Weil (June 25, 1926), Williams (1926), Mekie March 5, 1927), McKinstry (May, 1927), Archer (Sept. 17, 1927), Balph (Dec. 22, 1927), Mackay and McKenty (1927), Thomson and Mason Lamb (1928), Van Gilse and Postma (1928 and 1929), Boles (1928), Flandin and Soulie (Jan. 2, 1929), Erdheim (Feb. 1929), Harper (April, 1929), Rudolph Schoen (1930), Boston (March, 1930), Curschmann (Apr. 12, 1930), Stengel-Fitzhugh, Jr. (1930), Piersol-Steinfield (1930).

Cases of familial epistaxis: Sutton (1864), Babington (Sept. 1865), Kennan (1902), Fröhlich (1891), Verneuil (1894), Rosenberg (1900), Lane (1916), Blumenfeld 1926), Becker (1927), Giffin (1927), Goldstein, H. I. (1930), Ersner (1930).

Atypical cases of (familial) epistaxis or hereditary telangiectasia: Taunton (1830), Tweedle (1841), Sutton (1864), Babington (1865), Tanturri (Aug. 1879), Vidal (1880), Fröhlich (1891), Gaston (Feb. 8, 1894), Verneuil (May 29, 1894), Uullmann (1896), Kopp (1897), F. J. Smith (1898), Blaschko (1899), Du Castel and Baudouin (1899), Kalischer (1901), Joseph (1904), Armand 1905), Weber (1907) mentions a case reported Dec. 12, 1900, before the Dermatologic Society of London, with familial multiple venous angiomata; W. Blight (Feb. 23, 1907), Adamson (1907), Passini (1907), Pollitzer, Mayou (1907-1908), Lack (1908-09), Fox (1908), Hyde (1908), Steiner and Voerner (1909), Galloway (1910), Frick (1912), Stokes (1915), Lane (1916), Miescher (1919), Miller May, 1923), Blumenfeld (1926), S. W. Becker (1926), Giffin (1927), Becker (Sept. 1927), Weber, F. P. (Sept. 24, 1927), Memmesheimer (1928), H. I. Goldstein (1930), Kozach (1930).

Terrien and Prelat ("Telangiectasie generalisee' et cataracte congenitale", Nov. 6, 1909), and M. Vulpian reports cases dying from epistaxis and hemotysis under the title "Hemophile—Pas d'antecedents d'heredite' on de famille". (Feb. 1886).

Familial hemorrhages—hemoptysis, hematuria, hematemesis, bowel and rectal bleeding, and other atypical cases (non-hemophiliac and non-purpuric): Atlee (1901), Guthrie (1903), Pearson (1904), Bennecke (1906), MacCallum (1906), Thomson (Belfast), Ohkuvo 1907), Grandidier, Kausch, Apert (1907), Aitken (1909), Adler (June, 1909), Mantchik (1922), Libman and Ottenberg (1923), Hurst (1923), Barford (1926), Foggie (1928), Virgil Schwartz (1925), and others.

Miescher[125] (1919) reports a case of telangiectasia in a woman aged 71 years, whose mother died at 80 years from epistaxis. Her 31 year old daughter is well. She had telangiectases and tortuous capillaries on the nose, cheeks, forehead and legs. Blood Wassermann was positive. He reports asecond similar case. He was able to find 19 similar cases since Brocq's compilation. He fails to mention epistaxis or other hemorhages in his two cases.

Steiner and Voerner (*Duetsch. Arch. f. klin. Med.,* 1909, Bd. 94, 105) speak of "angiomatosis miliaris" and report several cases. They report a young man aged 29 years, with general symmetric telangiectases—pin-point to pin-head in size, on the chest, abdomen, genitalia, arms and lips. He had pollakuiaria, quick pulse, neuralgias, and anidrosis.

Francis C. Roles (November, 1928, pp. 19 and 20, *St. Bartholomew's Hospital Journal,* Vol. XXXVI, 1928-1929, London), reports a case of multiple telangiectasis with splenomegaly, in a marired woman aged 65 years, a machinist, suffering from "abdominal pain and indigestion." She had red "spots" on the face and hands, nose, lips, tongue, cheeks, and legs, which appeared to "come out" singly or in crops. Three years ago she had a thrombosis in the right calf and was diagnosed as cirrhosis of the liver. A large telangiectasis on one of her fingers bled profusely; there was no hematuria but increased frequency of micturition. She had severe epistaxis. No family history of epistaxis or of "spots." She had lesions of three types: pin-point, spider form (most common), and the nodular variety. Three of the nodular type on a finger, each side of nose, and on left cheek bled quite profusely. The spleen formed a firm, well-defined tumor the size of an orange and showed a well-marked notch. It was not tender. The coagulation time was 2 minutes, 27 seconds, and the bleeding time, 2 minutes, 36 seconds.

Gastou,[65] P. (Feb. 8, 1894, speaks of "congenital and hereditary vaso-motor telangiectases" and reports the

cases of a father and daughter. The father and daughter, and the paternal ascendants, all had red hair and a very high facial color. Both father and daughter had generalized telangiectasis. When 23 years of age the father had a "stroke" with left sided hemiplegia which almost entirely disappeared in two months. The daughter had vascular dilatations on the hands, and after a confinement the telangiectases showed a tendency to spread. He concludes that these cutaneous vascular dilatations may be the result of a vaso-motor paralysis through congenital, hereditary or acquired modification of the vascular vasomotor centres, and he therefore designates the condition as "generalized vasomotor telangiectases." He fails to *mention epistaxis* or other hemorrhages.

Romme[145] (*Presse Med.*, Paris, Apr. 24, 1909), reviews the literature and discusses hemophilia and hereditary hemorrhagic telangiectasia, but does not report any cases of his own.

E. Gjessing[67] (1916) reports three cases. One of his patients, a man aged 30 years (whose father and sister were similarly affected), bled profusely from the nose when a child. Nosebleed became more severe as he grew older. He had bled from the mouth on one occasion. He suffered from heart disease, severe anemia, and from *retinitis hemorrhagica.*

Coschwitz[38] (1616) mentions that frequent scratching with the finger-nail at the anterior part of the septum may be responsible for epistaxis.

Valsalva knew that the most frequent source of nosebleed was a site on the anterior portion of the cartilaginous septum. This site of predilection for nosebleed was later described by Michel, Little, Hartmann, Kiesselbach, Zuckerkandl, Hajek and others.

Rendu (*Semaine Med. IV*, June 12 and 26, 1884) emphasized the interesting facts that epistaxis in a young patient (with or without valvular disease) is often a premontory symptom of an attack of rheumatism, particularly in girls, when not occurring as vicarious menstruation.

Verneuil[179] (May 29, 1894) speaks of "Juvenile, Hereditary and Heredo-Hepatic Epistaxis" and reports illustrative *familial* cases. He speaks of familial and hereditary epistaxis as a reality. Forgues and Besnier say this form of hereditary epistaxis in children and adolescents occurs in families predisposed to spontaneous hemorrhage and which is often mistaken for hemophilia.

Curtius (Nov., 1928) speaks of nasal septum varicosities and Osler's Disease as a manifestation of general hereditary dysplasia of the venous wall or a "status varicosus."

Du Castel[47] and Baudouin (1899) report a case of hereditary telangiectasia in a man aged 25 years. Other members of his family had the same conditions. No mention is made, however, of familial nosebleed.

Becker[21] (Sept., 1927) in his paper on "Generalized Telangiectasia" reports (Case 2) the case of a girl aged 29 years, complaining of changes in the skin and nails. One sister and two brothers were subject to frequent nosebleeds, and her father also had nosebleed occasionally. She had nosebleed when in a warm climate, generally at the time of the menses. She had bilateral coronary cataract. She apparently had no telangiectatic lesions of the mucous membranes. Her finger nails were abnormal, and she had marked follicular hyperkeratosis. Marked erythema of her cheeks and chin and dilated vessels were noted.

Flandin and Soulie (Jan. 2, 1929) reported a woman 54 years old affected with hereditary hemorrhagic angiomatosis. She suffered from profuse epistaxis and had carmin-red vascular spots on the cheeks, chin, tongue and fingers. She had an intense anemia. The bleeding and coagulation time were normal and the clots were retractile.

Mekie's[122] (March 3, 1927) patient was a man aged 38 years, who had numerous telangiectases on the lips, nose, cheeks, tongue, nasal, septum, gums, soft palate and penis. He suffered from frequently recurring nosebleed, and advanced pulmonary tuberculosis. His father, grandfather, two uncles, one sister and three cousins were similarly affected. His seven children, under 15 years, were apparently not affected. One of the affected cousins died at the age of 28 years from a "ruptured vessel in the brain."

Kofler[100] (Karl, 1908) reported a man aged 50 years, who had repeated hemorrhages from the nose and lips. He had "spots" (telangiectases) on the face, lips, nose, nasal septum, mouth, ears, scalp, extremities and trunk. His mother and brother were similarly affected. His children were apparently not affected.

Kofler erroneously reports this cases as "Naevus Pringle of the Skin" and while he knew of Osler's and Parkes-Weber's cases, he did not think they were the same. I consider this a typical example of hereditary telangiectasia with epistaxis (familial).

Van Gilse[176] and Postma[176] (1928) of the University of Amsterdam, report four cases (from two Dutch families) who suffered from severe persistent nasal hemorrhages as a symptom of congenital telangiectases of the skin and mucous membranes.

Audry[13] (Jan., 1911) reports the case of a man aged 70 years who for many years had almost daily nosebleed. He had telangiectases on his face, lips, palate, tongue, trunk and arms. His mother, great aunt, cousin, niece, maternal uncle, five brothers and sisters, his two sons and several nephews were all similarly affected. He considers Chauffard's (1896), a non-familial (atypical) case.

Langmead's (March, 1910) patient was a man aged 68 years. He had thirty small telangiectases, and frequent nosebleed; occasionally the face or tongue would also bleed. Secondary anemia was present in 1907. In 1909 the blood count was normal, and he was considerably improved. Four brothers, one sister, his father, and two sons, and a daughter of one of his brothers, were similarly affected. The patient's mother suffered from severe epistaxis.

Erdheim (Feb., 1929) was able to collect from the literature 55 families with this disease. He reports six cases (who are now alive in one family) who have frequent attacks of epistaxis with no serious consequences. He also gives reports of five cases deceased, two of which probably died as the result of the severe repeated hemorrhages. He is convinced from his studies of 49 cases that the telangiectatic lesions were first noticed in 31 cases under the age of 30, and in the other 18 past the age of 30. The lesions seem to become aggravated in many patients in later life.

Fatal hemorrhages in some of these cases were reported by Kelly, Legg, Chiari, Phillips, Gottheil and others.

Paul[133] (1918) reported the first Australian cases. He reported a woman aged 32 with hereditary angiomata and epistaxis. He traced the disease as far back as the great-grandmother and both her daughters, and grandmother of Paul's patient. Twenty-one members of this family were affected.

Archer (Sept. 17, 1927) reported a case of multiple cavernous angiomata ("of the sweat ducts"); associated with hemiplegia in a man aged 30 years. One brother shows the same telangiectatic lesions. Parents are alive

and well. Patient suffered from frequent attacks of bilateral frontal headache. In 1918 he developed a right hemiplegia (at 21 years of age). The attack came on suddenly during the day. Complete recovery took place in two years. In 1922, he had a similar attack in addition to involvement of the left side of the face with loss of speech. There was no loss of consciousness in either attack.

He recovered completely from the last attack, except for pain in the extremities and back. The patient seems mentally dull. He always feels "cold.' The optical discs show a varicose and degenerated condition of the retinal vessels, but not hemorrhages. The skin shows multiple small pinhead disseminated angiomata distributed over the lower thorax, abdomen, sides of trunk, buttocks, thighs and genitalia. The mucous membranes of the lips, cheeks, and soft palate were also involved, but not the tongue. Spinal fluid and blood Wassermann tests were weakly positive. No reports of the blood platelets, blood chemistry, basal metabolism, X-ray of the sinuses, skull and teeth were included. No hemorrhages from the nose or mouth are mentioned. Archer considered the hemiplegia due to bleeding from a similar (angiomatous) varicose and degenerated condition of the vessels in the brain. He mentions, further, that such mental sluggishness is a frequent symptom in lichen planus, adenoma sebaceum and hypothyroidism.

McKinstry's patient (May, 1927) was a girl aged 19 years, with advanced bilateral pulmonary tuberculosis. She bled from the nose and had 5 or 6 punstate subcutaneous hemorrhagic spots on the tips of her fingers, and "spider webs" (telangiectatic) in the anterior part of the nasal septum. Her father was a "bleeder."

Laffont (Oct., 1909) mentions the observations by Kopp, Chauffard, Rendu, Steiner-Voerner, Blaschko, Joseph, and Hanes, and reports his own cases. He divides the cases into hemorrhagic and non-hemorrhagic types.

Hart-Drant (May 14, 1923) reported an atypical case of acquired multiple punctate telangiectases of seven years' duration in a white woman aged 40 years. Epistaxis is not mentioned.

I shall not review in this paper the interesting cases reported by Guthrie (1902), Aitken (1909), Legg (1876), Hutchison and Oliver (1916), Gundrum (1919), Osler (1901, 1907, 1911), Hanes (1909), Steiner (1917), F. Parkes Weber (1907), Fitz-Hugh (1923), East (1926), Griffin (1927), Ralph (1927), L. N. Boston (1930), Van Gilse and Postma (1928. 1929), and others.

Recently (January, 1930) there was a patient (Max G., 1930-15) in the service of Professor Alfred Stengel, University of Pennsylvania Hospital, who died as the result of persistent severe hemorrhages, shock from repeated large blood transfusions, toxic hepatitis, and cholemic nephrosis. The man was 64 years old. For many ears he had severe recurrent attacks of nosebleed, and many telangiectatic lesions in the nose, roof of mouth, trachea, left bronchus, and rectum. In September, 1927, he had "black stools," and in June, 1929, he had very profuse nosebleed, requiring blood transfusion. Bleeding and clotting time and blood-platelets were normal. *He had an enlarged spleen.* At necropsy the spleen was found to weight 660 grams. Size 19 x 3 x 7 cms.; slate gray in color; areas of hemorrhage were noted. No gross evidence of telangiectases was found in the stomach and intestines. Eight other members of his family, including one brother, two sisters, one son, three daughters and his mother, all bled from the nose.

Curschmann's (1930) patient had an enlarged and somewhat tender spleen, a man, aged 54).

Roles' patient (1928), and a case recently in the service of G. M. Piersol, Graduate Hospital, Philadelphia—had splenic enlargement. Piersol's patient bled profusely from the nose, and required blood transfusions. His sister also suffered from nosebleed. Fitz-Hugh, Jr., will report his patient in detail (service of Dr. Stengel), with complete autopsy record (*Am. J. M. Scs.*)

Josserand (1902) reported a case of a woman aged 56 years. Her father, and two brothers had frequent profuse hemorrhages from the nose. The woman bled frequently from the nose, lips, gums and tongue. Her cheeks were studded with vessels which were confluent. Varicosities extended into the orifices of the nose and on both sides of the septum. There were small angiomatous spots, more marked on the left side of septum, and some on the middle and inferior turbinate bones. There were telangiectases on the face, lower lip, tongue and palate, also on the neck, breasts, arms and back. The younger brother who was examined also had the same kind of telangiectatic lesions.

Vulpian (1886) reports a patient age 30 years who bled from the nose, several times a week. He had later "ecchymoses" on the index and middle fingers of both hands. After contracting syphilis at 20 years, he bled from the nose two or three times daily. There were very dark ecchymotic areas on the helix of both ears. At one time the anemia was very severe,—less than one million red blood cells. He also bled from the gums, and finally died from profuse epistaxis. There were no other cases of "hemophilia" in the family.

Vidal (1880) reports a case of a woman 31 years of age, who had symmetrically generalized telangiectasis. No hemorrhages are mentioned.

Letienne and Arnal (1897) report multiple telangiectases with Basedow's disease in a woman 27 years of age. Other members of the family were well.

Blaschko (1899), Brocq (1904), Sachs (1925), Hofmann (1927), Terrien and Prelat (1909 and others discuss "telangiectases"—but not of familial occurrence and without hemorrhages.

Bonhomme de Montaigut in his Thesis (Paris, 1882), discusses epistaxis of varicose lesions of the nasal fossae. This form of epistaxis, he says, usually occurs in adults. The hemorrhage increases in severity with age. "Most of the cases reported began between the ages of 15 and 20, but as they grew older the hemorrhages became more severe."

Matthew S. Ersner (1930), of Philadelphia, reported several cases of Osler's disease, typical familial cases of hereditary epistaxis with telangiectasia, occurring in two families. He reported these instances, in discussing Goldstein's paper, (June 13, 1930), before the State Medical Society of New Jersey at Atlantic City.

Osler (1911) reported father and daughter (aged 35 years), suffering from "hereditary hemorrhagic telangiectasia" and epistaxis for a great many years. The daughter bled from the nose (recurrent) since infancy, and also had telangiectases, which increased in number after 30. The father's face was covered with telangiectases.

Tomasi (1923), discusses progressive hemilateral essential microtelangiectasia" and reports a case of a young woman aged 22. No skin anomalies in any other members of her family.

Kromeke (1922), speaks of "hereditary hemorrhagic thromboasthenia" and reports several cases, including a woman aged 74, and her three *daughters* and their children, who bled profusely.

Waggett's (1908) patient was a man, aged 55, married, but without children, a player of wind instruments. Bled from the nose, face and lips. A sister has the same trouble. Telangiectases are present in the nose, on septum, middle turbinate, on the tongue, lips and cheeks.

Ballantyne (1908) reported three cases of multiple telangiectases in one family (Hollanders, of the farming class).

Telangiectases were present on the palpebral conjunctivae, lips, cheeks around nostrils, roof of mouth, tip of tongue; and under nail of fourth finger (right) in the case of the daughter, age 26. She had frequent hemorrhages from the nose. Ballantyne refers to Kelly's paper, and states Kelly's cases closely resembled two of his cases.

It is possible that some of the cases of essential hematuria reported by Conner and Bumpus (1927) of the Mayo Clinic may have been instances of Osler's disease ("Telangiectasia (hereditary) with hemorrhages"). Calcium estimations, bleeding time and blood platelets were normal in a number of their cases. Blood coagulation time in a few of their cases was prolonged. Blood calcium was *low* in many of their cases.

MacCallum (1906), Laboulbene (1872), Boyer (1877), Hektoen (1897-9), Laci (1882), Bennecke and others reported cases of intestinal hemorrhage from telangiectases, "phlebectasies," and dilated venules and capillaries in the walls of the stomach and intestines. Some of the cases proved fatal. MacCallum's patient, age 54 years, had multiple cavernous haemangiomata throughout the entire small intestine.

Brown Kelly (1907) reported three cases of Rendu-Osler's disease.

A woman, age 48 years who had nosebleed since childhood. "Spots" were first noticed when 29 years, on the face, then on the ears, lips, fingers, hands, breast, nose, and tongue. She died as the result of severe epistaxis,

Her father, and daughter, and a sister had the same trouble. He reports a case of a woman aged 35, who suffered from severe nosebleed and many telangiectases on the right side of the face, nose, soft palate, uvula, and faucial pillars. The temperature (surface) was higher on the affected (right) cheek—due to the angeioma in the cheek.

Artom and Fornara (1925)—discusses "telangiectasia vasoparalytica sistematizzata." They speak of cutaneous and visceral hemorrhages occurring in this class of cases, and refer to a case reported by Ravenna. They state such hemorrhages though rarely occurring in the internal capsule, are frequent in the thalamus or cerebral peduncles when the lesions are localized there. They describe two groups of these cases, and report a case of a boy aged 11 years.

Marchiso (1929) reports a case of "telangiectatic purpura annularis of Majocchi" in a young man aged 26 years.

CASE REPORTS

During the past twenty-one years we have met with three families in whom epistaxis occurred repeatedly and profusely. The first family (W.) was a typical instance of multiple hemorrhagic hereditary telangiectasia with familial epistaxis. Eleven (11) members of this family were so effected. This family was reported by H. I. Goldstein in 1921 (Arch. Int. Med.).

Recently, one of the patients was treated in the Atlantic City Hospital. In 1918, at the age of 42, she had a "stroke," due to bleeding from a cerebral telangiectatic lesion. Blood Wassermann tests were negative. Renal function tests, blood chemistry, blood platelets, coagulation and bleeding time, and blood pressure, at that time, were normal. There was no evidence of embolism, hemophilia, purpura, arteriosclerosis, hypertension, endarteritis obliterans, syphilis, uremia, or vascular crisis. During her recent stay (April, 1930) in the Atlantic City Hospital, in the service of Doctor Barbash, her condition was very poor, and blood transfusion was necessary. Laboratory studies, made at the hospital, showed as follows:

BLOOD COUNTS

April 3, 1930	R. B. C.	1,410,000	Large amount anisocytosis, macrocytes predominate; slight poikilocytosis; marked achromia and polychromasia.
	W. B. C.	12,750	
	Hemoglobin	35%	
	Color Index	1.2 plus	
	Polys.	89%	
	S. Lym.	9%	
	L. Lym.	1%	
	Baso.	1%	
April 7, 1930 (After transfusion)	R. B. C.	1,910,000	Slight poikilocytosis; marked anisocytosis, macrocytes predominate. Marked achromia and polychromasia. Occasional nucleated red cell.
	W. B. C.	22,750	
	Hemoglobin	35%	
	Color Index	.9 plus	
	Polys.	85%	
	S. Lym.	13%	
	Baso.	1%	
	Mono.	1%	
April 10, 1930	Differential omitted.		Marked anisocytosis, macrocytes predominate; marked poikilocytosis; marked achromia and polychromasia; slight stippling; occasional nucleated red cell.
April 14, 1930	R. B. C.	1,900,000	
	W. B. C.	12,500	
	Hemoglobin	30%	
	Color Index	.7 plus	
April 15, 1930	R. B. C.	1,690,000	
	Hemoglobin	25%	
April 16, 1930	R. B. C.	2,010,000	
	W. B. C.	8,300	
	Hemoglobin	20%	
	Color Index	.5	
April 22, 1930	R. B. C.	1,560,000	Marked anisocytosis, macrocytes predominate; moderate poikilocytosis; marked polychomasia and achromia.
	W. B. C.	6,500	
	Hemoglobin	10%	
	Polys.	60%	
	S. Lym.	38%	
	L. Lym.	2%	
	Wassermann and Kahn—negative.		
April 7, 1930	Reticulocyte count	1.2%	Coagulation time—5 minutes. Icterus index 2.
April 10, 1930	Reticulocyte count	0.8%	
April 14, 1930	Reticulocyte count	1.2%	
April 15, 1930	Platelet count	66,000	
April 16, 1930	Percentage of banded w. b. c.	16%	
	Blood calcium	— 8.4 mgm. %	
	Fragility Test Minimal hemolysis	.40%	
	Maximal hemolysis	.34%	

Report of Author's Cases

First Family (1918-1921)

Case 1. Mrs. R. W., aged 42 years, white, married, has had severe persistent and recurring attacks of epistaxis since childhood. She has two daughters and two sons. One daughter, aged 20 years, has bled from early childhood. The other daughter, ager 11 years, has bled from the nose nearly all her life. The patient has telangiectatic lesions on the nose, nasal septum, lips, tongue, chin and cheek. There are a few lesions on the left side of the neck, and one on the middle finger of the left hand. None are seen on the thighs and legs. The larger spots on the tip of the tongue have bled on several occasions. Bleeding from lower lip occurred on one occasion. Somtimes the hemorrhages from the nose are very profuse and uncontrollable. The patient received

ferrous carbonate, sodium arsenate, calcium lactate and calcium chlorid at various times. She also used thyroid and lutein for a brief period. Secondary anemia is present. Her eldest daughter has a few spots on the tongue and one over the right clavicle and some on the forearms. The younger daughter has none on the face

Fig. 1.—Telangiectases on the face.—From *Archives of Internal Medicine.*—Steiner—(1917)

or body, and only two very small ones are seen on the tongue. The patient's mother, who is dead, also had recurring attacks of epistaxis and red spots. Three sisters are married. Two sisters have nosebleed; one sister, 34 years of age, bleeds profusely from the nose.

Her four children, J. H., 13; A. H., 11; M. H., 6; and I. H., 3, all suffer from epistaxis. Another sister, A. L., aged 32, bleeds from the nose. Her son, M. L., aged 8, does not bleed. A third sister, Mrs. M. C., aged 30, and two children, J. C., aged 10 and E. C., aged 5, apparently do not bleed.

Mrs. R. W. (the oldest daughter) had a "stroke" and hemiplegia Jan. 20, 1918, after a little giddy spell. This attack was due to defects in the small vessels, like those occurring in other parts of the body, or a peripheral sclerosis. Blood Wassermann tests were negative on several occasions. Blood chemical tests showed urea nitrogen 18 mg. in 100 c. c. of blood; nonprotein nitrogen, 35 mg.; creatinin, 2.20 mg.

Urine. Jan. 26, 1918: Trace of albumin; sugar less than 0.1 per cent; chlorids, 0.5 per cent; specific gravity, 1.005; granular and hyalin casts; flat and round and caudate epithelial cells; urea, 1 per cent; acid.

March 11, 1919: Albumin present; urea, 0.5 per cent; amorphous urates present; total solids, 16.3 gm.; faintly acid; specific gravity, 1.009; no casts; no sugar.

July 24: Acid; specific gravity, 1.015; no acetone; no diacetic acid; slight excess of indican fifteen times normal; urea, 0.6 per cent; no diazo reaction; slight excess of urorosein; no casts and no cylindroids; many red blood cells; many renal epithelial cells; large number of leukocytes (pus). Thirty-five ounces of urine were voided in twelve hours.

Eyes: April 30, 1919. Posterior polar cataracts in both eyes.

Blood: Coagulation and bleeding time normal.

Feb. 15, 1918. Erythrocytes, 3,980,000; leukocytes, 12,600; hemoglobin, 61 per cent. Differential count: polymorphonuclears, 64 per cent; transitionals, 2 per cent; eosinophils, 3 per cent; mast cells, 1 per cent.

July 24, 1919. Erythrocytes, 3,300,000; leukocytes, 14,600; hemoglobin, 68 per cent; polymorphonuclears, 60 per cent; large mononuclears, 12 per cent; small mononuclears, 24 per cent; transitions, 2 per cent; cosinophils, 2 per cent.

The phenolsulphonephthalein renal function test was practically normal. The blood pressure varied during the past three years between 128 systolic and 90 diastolic, and 110 systolic and 80 diastolic.

Comment. At the time she had the stroke it was difficult to decide as to the cause. One could not easily differentiate between embolism, thrombosis and hemorrhage. There was no evident source of an embolus. A faint murmur could be heard over the heart, and at times it was faintly audible at the apex, but it could be attributed to the anemia. Shortly after the cerebral hemorrhage, the systolic blood pressure was 140; however, at no time during the past three years has it been higher than the normal average, often below. She complains of a heavy feeling and numbness in the limbs, and "heaviness with giddy or dizzy feeling in the head." She has crying spells occasionally, worrying over her condition. She was seen by Dr. O. H. Perry Pepper at my request, who reported also that her clotting and bleeding time was normal.

There is no history of hemophilia in the family and none of the family bleed excessively from cuts. One son, A. W., aged 12 years, has several small telangiectases, and a large pale reddish nevus on the back of the left shoulder and one telangiectatic lesion below the right lower eyelid. He does not bleed from the nose; the eldest son, L. W., aged 23 years, apparently has neither epistaxis nor many telangiectases. There are a few over the scapular regions (supraspinous), and one lesion about four inches below and to the left of the left nipple.

At the time of the "stroke," and since, the patient, Mrs. R. W., has been seen by A. E. Roussel, F. X. Dercum, Charles Potts, W. G. Spiller, A. Gordon of Philadelphia, T. D. Taggart of Atlantic City, N. J.; S. S. Butler of Camden, N. J., and others, during the past three years; however, none of them made the diagnosis of hereditary telangiectasia with recurring hemorrhages, and did not associate the nosebleed and the cerebral complications with the hereditary weakness of the vascular system. Dr. O. H. P. Pepper agreed with me in my diagnosis.

Case 2. Mrs. Anna L., aged 32 years; married seven

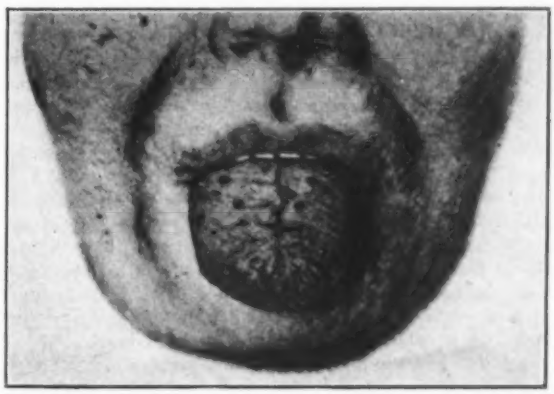


Fig. 2.—Telangiectases on the tongue and cheeks.—From *Archives of Internal Medicine.*—Steiner—(1917)

years, had one miscarriage at six months, and one premature birth at eight months, the child living only twenty-four hours. Her husband had a positive Wassermann test. The patient had a positive Wassermann nine years ago. She has one boy, M. L., aged 7 years, living and well. The boy does not bleed from the nose. The patient has had nosebleed since early childhood, very frequent; bleeding stops of itself. Had influenza

and pneumonia and measles. She bleeds very profusely from the left nostril. Her hands are cold, and she gets short of breath on exertion. Occasionally, she bleeds from hemorrhoids. She has seven or eight small spots over the back, on the shoulders, two small spots back of ears, several on the left side (anteriorly) of septum

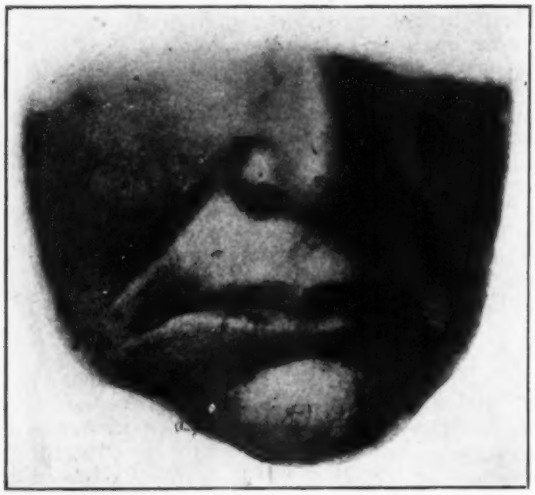


Fig. 3.—Telangiectases on lower part of face of Mr. C.—From *Quarterly Jour. Med.*, Osler—(1907)

of nose and one or two on right side of septum. There are a few radiating dilated capillaries around the alae of the nose. She also has clubbed fingers; these are cyanosed and cold; the lips are cyanosed and get "blue" very often. Blood pressure: systolic, 95; diastolic, 70. No cardiac murmurs were heard at time of the examination, but the heart sounds were not of good quality; they were weak and muffled. She is a sister of the above patient (Case 1), Mrs. R. W., and to Mrs. E. H. Case 3). Numerous Wassermann tests have been negative, following specific treatment taken up to a few years ago.

Case 3. Mrs. Eliz. H., aged 35 years, has four children. She had one miscarriage. One infant, aged 1 month, died of whooping cough. She was operated on four years ago for ruptured gastric ulcer with intestinal obstruction. She has been bleeding from the nose almost daily since childhood. She says her mother bled "terribly" from the nose for a great many years, and she thinks her death was due to these severe nasal hemorrhages. She has a pinpoint lesion above the right eyebrow, three or four spots on the right cheek over the malar bone, one pinpoint lesion on the left cheek, one inch to the left of the outer angle of the left eye; three or four lesions on right half of the lower lip; one spot on the under surface of the upper lip; one on upper gum; one spot on neck at base right side). She gets attacks of nosebleeding even during her sleep.

Case 4. Marvin H., aged 5 years, was always well, except for severe nasal hemorrhages. He has had nosebleed daily, and during sleep, since 2 years of age. He has one spot on left cheek, one inch below outer angle of left eye, and one on right cheek, one inch below and in front of righ tear. Several dilated capillaries are noted on right side of septum of nose. He had measles. Mother says boy "bleeds in streams from nose" daily, which stops itself, after bleeding for five or six minutes. In these cases epistaxis was the first manifestation of the disease. While the hemorrhages have been severe and prolonged, there is only a comparatively mild secondary anemia. In appearance the patients do not look very anemic at all. Sometimes washing the face, or using a handkerchief, or other very slight trauma is sufficient to bring on an attack of epistaxis.

Blood Examination: Oct. 11, 1920: Hemoglobin, 70 per cent; erythrocytes, 2,900,000; leukocytes, 8,000. Differential count: Polymorphonuclears, 51 per cent; small lymphocytes, 45 per cent; large mononuclears, 3 per cent; eosinophils, 1 per cent. Marked poikilocytosis. Blood Wassermann negative.

Cases 5 and 6. Aaron H., aged 11 years, and Jeannette H., aged 13 years, bleed very profusely from the nose since 2 years of age. They are the children of E. H. They have "spots."

Blood Examination: Oct. 11, 1920. Jeannette H.: Hemoglobin, 75 per cent; erythrocytes, 3,350,000; leukocytes, 7,400. Differential count: Polymorphonuclears, 72 per cent; small mononuclears, 25 per cent; large mononuclears, 2 per cent; eosinophils, 1 per cent. Some anisocytosis and poikilocystosis. Blood Wassermann negative.

Aaron H.: Hemoglobin, 80 per cent; erythrocytes, 3,250,000; luekocytes, 11,000. Differential count: Polymorphonuclears, 61 per cent; small mononuclears, 36 per cent; large mononuclears, 2 per cent; eosinophils, 1 per cent. Some poikilocytosis and anisocytosis. Blood Wassermann negative.

	Boggs	Test Tube
Marvin H.....	5 min.	6 min.
Jeanette H.	6 min.	7 min.
Aaron H.	5 min.	4 min.

SECOND FAMILY (1922)

Case 1. Mr. C., aged 33 years, white, adult, male. Auto-parts machinist. Past history negative, except that he has had frequent attacks of nosebleed for many years. In the past three or four years he has been complaining of severe headaches, particularly a left hemicrania. He is married, has four children, two boys and two girls. His wife has not had any miscarriages. Veneral disease denied. One son and one daughter

Fig. 8.—Ole M., Case 2, from the University Hospital, patient with acromegaly, showing hemangiomas of the mucous membrane of the lips. Note also the spacing of the teeth and the corrugated appearance of the under lip on the left side.—From *Archives of Internal Medicine*.—Head—(1917)

have had repeated attacks of nosebleed for a number of years. General examination negative. The X-ray findings are as follows:

Teeth: Peripical abscess at the root of the last upper left molar. This should be extracted. An incipient abscess at the root of the last molar (lower left). This tooth, I believe, can be saved by early instituted treatment.

Sinuses: Distinct clouding of the left antrim and the right frontal sinuses. This condition is due to the presence of a fluid exudate or pus. The other accessory sinuses are normal.

Nose and throat examination showed free discharge of a muco-purulent nature from the left nostril and a degenerated middle turbinate of a colloidal character with obstruction to free drainage from the ethmoid and frontal sinuses. There is distinct vidence of a frontal sinusitis and disease of the left antrum of Highmore.

Case 2. Dorothea C., aged 8 years. White girl, daughter of the above patient. Has had measles, chicken-pox and whooping cough. Has enlarged tonsils and adenoids. General examination negative. Has had repeated attacks of epistaxis and more often than her little brother. On examination thirty-seven small ***brownish spots*** were found scattered over the trunk, neck and legs. One small telangiectatic spot about two inches below the right ear on the side of the neck and the left ear. Numerous very fine and dilated capillaries (arborescent and spider-like) over both cheeks. A few dilated capillaries are seen over the left nasal ala. One dilated capillary visible over the sternal end of the right clavicle and one over the right shoulder. There are some visible capillaries over the space between the left scapular spine and vertebrae.

Case 3. Harry C., aged 6 years. White boy, brother to the above patient. Has had measles, chicken-pox and la grippe, whooping cough. Has attacks of hemorhage from the nose. These attacks are not very frequent of late. General examination negative. Has a pale pink nevus on the back of the neck, 2 inches by 1½ inches. Has another "birth-mark" over the middle of the back 1¼ by ¾ inch. He has twenty-eight brownish spots scattered over the body, resembling dark pigmented freckles. There is visible one area of dilated capillaries over the left cheek.

The father had several telangiectatic lesions, one or two on the neck and about thirty-five or forty dark pigmented spots, dark brown in color, scattered over the neck, trunk and arms. His tonsils were removed about eight months ago.

Third Family (1929)

Mr. H., aged 29. Suffering from migraine and headaches for past fifteen years. Had diphtheria, typhoid fever, pneumonia, three attacks of acute articular rheumatism. Now has occasional pains in the joints. Had nosebleed frequently and nearly bled to death following tonsillectomy. Is "drowsy" and "fatigued" and cannot concentrate. Mother has diabetes. Father and two brothers had nosebleed. Blood Wassermann tests were negative. Urine analysis—negative. Bleeding time: 2½ minutes. Clotting time: 11 minutes (hypocalemia). Blood calcium—7.9 mgm. per 100 c.c. blood. Blood sugar—90. mgm. per 100 c.c. blood.

Blood count—R. B. C. 4,390,000; Blood platelets, 290,000. W. B. C., 10,000.

Differential—Polys. 59 per cent, small lymphs, 39 per cent, L.L., 1; Baso., 1.

X-ray of sinuses—Clouding of left artrum. Sella turcica, normal. Teeth—negative.

Eye examination—Low amount of far-sighted astigmatism.

Basal Metabolism—minus 25 per cent.

Removal of the tonsil stump, cleaning the antrum, the administration of thyroid extract, calcium, parathormone, and ultra-violet ray therapy brought about rapid improvement.

The blood calcium rose to 11. mgm. Blood uric acid, 3.8 mgm. Creatinine, 1.4 mgm.

The basal metabolism became normal. One brother, age 23 years, bled severely after tonsillectomy. Bled from the nose occasionally. Another brother, age 25 years, bled profusely after tonsillectomy (1924), followed by pneumonia. Bled from the nose. Another brother, aged 42 years, used to bleed from the nose. His 3 sons do not bleed. The father, age 68 years, had severe nosebleed, when younger. One sister and one brother do not have nosebleed.

These instances of familial epistaxis resemble the type of cases reported by Giffin of the Mayo Clinic, in the *American Journal of Medical Sciences,* 1927.

Diagnosis

The differential diagnosis must be made from "pseudo-hemophilia," hypertensive epistaxis, purpura hemorrhagica, hemophilia, pernicious anemia, tuberculosis, deficiency disease, or "hemorrhagic diathesis." Blood platelets, bleeding and clotting time are usually normal. Men and women are affected, and both sexes may transmit the condition.

Treatment

As the condition is due to some hereditary defect of the vascular system, little can be done.

For the local bleeding, the chromic acid bead, electric cautery, carbon dioxide snow, astringents, and radium have been tried. The administration of calcium by mouth and intravenously, parathormone injections, viosterol; ultra-violet ray and x-ray therapy, liver, liver-fraction, iron, arsenic, and endocrine therapy have given varying results. In severe hemorrhages, wholeblood injections, blood serum, blood-transfusion, thrombo-plastin, calcium chloride-urea and calcium gluconate may be useful.

Taylor (July, 1929) has apparently cured purpura hemorrhagia by the use of *bothropic antivenin.*

Rendu suggests cold compresses to the head and neck, lifting the arms, decoction of walnut leaves, or a little alum. Tamponing when necessary, and the administration of opium. Gubler believes opium is the best remedy in some cases when epistaxis is excited by excessive nerve stimulus.

Pagueguy (Paris, 1831) recommends the introduction of a piece of hog's intestine prepared in the form of the finger of a glove and this can be filled with fluid by means of a syringe after which a ligature is applied to prevent the escape of the fluid. Thus the mucous membrane of the nose is compressed and the hemorrhage arrested. Wicks of lint moistened with alum solution, were use d for tamponing. He used wine of quinine and iron as tonics.

Gjessing uses calcium lactate regularly and as a prophylactic remedy.

Osler used calcium chloride.

Emile-Weil suggests using carbon-dioxide snow (June, 1926) and has obtained some good results.

Leeches applied to the back of the neck and to the buttock was advised by Sacharin, of Russia.

Compression of the nose with thumb and index finger is at times a useful procedure.

Stenger (1915) in his Thesis for the University of Wurzburg, discusses, most thoroughly, the various forms of treatment for nasal hemorrhages. He suggests the use of cauterization with chromic acid crystals or silver nitrate for the telangiectases, followed by loose tamponage with 10. per cent bismuth ointment. He has also tried the gelatines.

McBride (University of Penna. *Med. Mag. II,* 1889-1890, pp. 424-426) reports two fatal cases of nosebleed and one case that was nearly fatal. This patient was a law student, aged 17, who bled for many days. D.

Hayes Agnew suggested two cylinders of bacon so as to tightly plug the nostrils. This stopped the bleeding for awhile. Later, McBride used a cylinder of ham fat which "acted like a charm." Edward Martin and the late J. William White, of the University of Pennsylvania, also saw this patient.

Conclusions

(1) A review of the literature of the world on the subject of familial epistaxis and hereditary telangiectasia is here briefly discussed.

(2) There are probably a total of sixty-five (65) families and about three hundred and fifty (350) individuals suffering with this clinical entity—"hereditary (familiar) epistaxis with multiple hemorrhagic hereditary telangiectasia"—on record in the entire available medical literature of the world.

(3) Many cases, no doubt, have been overlooked by the oto-laryngologist, dermatologist, and pediatrician. A more careful study of cases of epistaxis and of those complaining of various forms of telangiectases and angiomatous lesions of the skin and mucous membranes will bring to light additional cases of this disease entity.

(4) Cases of *familial* hematuria, hemorrhagic nephritis, hemoptysis, "gastrostaxis," intestinal and gastric bleeding, and some of the so-called essential idiopathic hemorrhages, are probably different forms of this disease.

(5) Reports of cases of familial epistaxis, with and without skin and mucous membrane (vascular) lesions are included in this paper.

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Discussion

Matthew S. Ersner, Professor of Otology, Temple University, Philadelphia: I wish to congratulate Dr. Goldstein upon the splendid manner in which he presented his paper. The bibliography and analysis will remain as an accepted record for some time to come; I feel that he has left no stone unturned, for he has covered the subject most thoroughly.

Epistaxis commonly known as "nose bleed" occupies an important place in the practice of Rhino-Otolaryngology. The average individual who loses blood from any source irrespective from where it comes, loses his general sense of proportion and becomes frightened and so annoys himself, his family and the attending physician. When one stops to consider that the most precious of life's fluid is pouring forth and leaves in its path a pale, asthenic, anemic and an almost helpless individual, we realize that blood is blood in any language and we must deal with epistaxis from a general as well as from a local standpoint.

Hereditary hemorrhagic telangiectasia may be defined as an hereditary abnormality which upon endonasal examination, reveals localized dilatations of capillaries and venules. These telangiectatic areas can also be found in other parts of the body. The most prominent bleeding points in the nasal region are the Kesselbach area, middle of the septum near the root of the turbinate and floor of the posterior portion of the nose. The important blood vessels that we encounter in these areas are the internal sphenopalatine and the superior coronary arteries.

Upon careful perusal of history, one will learn that this condition occurs both in the male and female and is hereditarily transmitted both from the maternal and paternal side. In some cases however, it is difficult to prove that heredity follows the Mendelian law.

The three cases which I have in mind are of hereditary origin. The first, a male, was transmitted through the mother; the second a female through the father, the third case represents a close intermarriage of blood relations, the father having a history of gastric bleeding and the mother of nasal bleeding. The question of atavism therefore seems positive at least from these cases which I am about to quote.

Case 1.

D. G. male, age 6. In 1918 patient was first examined by me for a nasal hemorrhage. His chief complaint was profuse recurrent nasal bleeding which would occur upon slightest provocation or without any apparent cause. Family history revealed that his mother and sister were the bleeders in the family. As he grew older the epistaxis of the nose became less frequent. Although it has been necessary for him to remain under my care for treatment at different times.

Case 2.

S. M. female, age 20. Patient came under my observation in 1924 for recurrent nasal bleeding. Endonasal examination revealed a septal spur and dilated blood vessels. These would bleed excessively at different intervals. From the family history we learned that the father had had gastric hemorrhages. His Wasserman and blood picture were negative. He died at the age of 40 from hemiplegia. This was probably due to a telangiectasia of the lenticular artery. About four months ago I again was called to see the patient who had another attack of epistaxis.

Case 3.

M. B. male age 5. From the family history obtained, we learned that the father and mother were closely related, that the father had had gastric hemorrhages and that an exploratory abdominal operation was performed but there was no abatement of the symptoms. The mother gives us a history of recurrent nasal bleeding and informed us that at the time of delivery she almost bled to death. Eight days after delivery, the infant was circumcised. A profuse hemorrhage followed the procedure. The child at the age of 5 was brought to me for tonsillectomy and because of the history of familial hemorrhage all precautions were taken. The blood coagulation, bleeding time, blood platelets and complete red and white count were taken and were found to be normal. As a further precaution, we administered calcium lactate by mouth and thromboplastin and parathormone hypodermically. Irrespective of all these precautions, a severe post-operative hemorrhage occurred which necessitated a ten-day hospitalization for the child. The child at the present time is eleven years old and frequently gets a nasal hemorrhage.

The three cases mentioned presented negative blood pictures and positive histories. On clinical endonasal examination, the findings revealed dilated blood vessels. One case presented skin and mucous membrance lesions.

TREATMENT FOR NASAL EPISTAXIS

I Mechanical
- (a) Determine area of bleeding; this is accomplished by mopping, sponging, suction and irrigation.
- (b) Remove blood clot.
- (c) Wash with hot saline solution 130 deg.
- (d) Pledgets of cotton saturated with cocaine and adrenalin give temporary vascular contraction.
- (e) Pressure under lip (coronary artery).
- (f) Finger pressure in the nose.
- (g) Packing (anterior and post-nasal).
- (h) Rubber balloon pack.
- (i) Salt Pork.
- (j) Simpson's splint.
- (k) Lintine strips and ferropyrin cerate.
- (l) Concentrated geranium.

LOCAL

II Thermal
- (a) Cautery.
- (b) Electro-coagulation.
- (c) Electro dessiccation.
- (d) Diathermy.
- (e) Fulguration.

III Chemical
- (a) Silver nitrate.
- (b) Chromic acid bead.
- (c) Carbon dioxide ice.

IV Operative
- (a) Elevation of mucous membrane, packing underneath it so as to destroy the circulation.
- (b) Sub-mucous resection with the hope of destroying circulation.

GENERAL
- (a) Complete blood examination.
- (b) Calcium Chlorid (intravenously).
- (c) Calcium gluconate (oral and intramuscular injections.)
- (d) Parathormone.
- (e) Thromboplastin.
- (f) Blood transfusion.
- (g) Horse serum.
- (h) Treat shock.
- (i) Morphine and atrophine.
- (j) Supply fluid (such as Murphy drip, sodiumbicarbonate, glucose intravaneously or hypodermoclysis.
- (k) Tonics (such as arsenic, quinine, iron, etc.)

Conclusions:

1-Recurrent epistaxis should be treated from a local as well as from a general standpoint. If the epistaxis is purely a local condition, then the prognosis is most favorable. If otherwise, then a thorough physical examination should be made seeking telangiectatic areas.

2-A thorough family history should be obtained in order to definitely rule out any hereditary epistaxis.

3-Atavism is a possible factor; the prognosis of the epistaxis will naturally depend on the type, the etiological factor and the associating disease that one may find in a given case.

4-A thorough blood examination should be made in order to rule out hemophilia, anemia, scurvy and other blood dyscrasias.

5-A normal coagulation and bleeding time, and negative blood platelet count should arouse one's suspicion of familial epistaxis especially when there is a history of severe nasal bleeding.

6-Endonasal examination should be made in order to determine

the bleeding area and if possible should be destroyed, employing the various methods as outlined in the chart.

7-General supportive and tonic treatments should be instituted as soon as possible on account of the anemia that follows nasal hemorrhage.

8-The characteristics of familial epistaxis without telangiectasia and recurrent nasal bleeding without telangiectasia and without familial history may indicate a probable existence of familial form of purpura. A careful family platelet count would help to explain the facts clinically.

DR. HYMAN I. GOLDSTEIN (Camden): (Closing Discussion): In closing this discussion, I first wish to express my gratitude and appreciation to Drs. Barkhorn and Ersner for their interesting remarks and their complimentary expressions concerning this study.

I wish to emphasize only two things: First, *the differential diagnosis* must, of course, be made from pernicious anemia, severe septic infections complicated by petechiae and hemorrhages, hemophilia, so-called pseudo-hemophilia, various deficiency diseases, purpura hemorrhagica, leukemias and anemias, simple telangiectases and hypertensive and arteriosclerotic hemorrhages and gastro-intestinal and nasal bleeding due to other evident pathologic conditions. Parkes Weber of London (Brit. Journ. Derm. & Syph., Aug. 1930) discusses "Telangiectasia macularis eruptive perstans" and alludes to familial hemorrhagic cases. He agrees with me that Curschmann's cases were really not hemophilia at all but instances of "Rendu-Osler-Weber's Disease." Remember, if you please, that in this interesting clinical entity both sexes are equally affected, and both male and female may transmit the condition. Blood pictures, with the exception of secondary anemia, are usually normal. Blood platelets and bleeding time are normal. Hemorrhages may occur from the stomach, the bowels, the rectum, the bronchi, and we may even meet with hemorrhages into the eye and from the tongue, gums and lips. In one of my cases, hemorrhage occurred from telangiectatic lesion under the fingernail, and from the tip of the tongue. Hematuria may be met with in these cases.

Second, as to *treatment*, which I did not dare to discuss fully in the original paper in the presence of such distinguished oto-laryngologists. My good friend Dr. Ersner has covered this part of the subject most admirably. I may add, however, that Professors Agnew and Martin of the University of Pennsylvania used bacon packed into the nose to stop nosebleed when other measures have failed (1865 or 1870). Later, McBride, treating a law student from the University, seventeen years of age, used ham fat to stop the bleeding when everything else failed. Nasal bleeding was also stopped by the use of hog's intestine inserted in the nose, filled with fluid and tied. More practical measures, however, in cases of this disease, to stop the hemorrhages are the *cautery* for the local approachable lesions and the *x*-ray over the spleen. Intravenously one may use calcium chloride-urea (10 c.c.-10%) or calcium gluconate. Whole blood injections, blood transfusion, thromboplastin, kephalin, parathormone (by injection); calcium lactate, calcium chloride, and calcium gluconate by mouth have all been used with more or less effective results. Mesothorium has been used with some effect. In the hypertensive arteriosclerotic cases with hemorrhage that may occur in some member of these families as in others, not affected with Osler's disease,—the use of hypotensive remedies is of course indicated. In cases of high blood pressure iodides, nitrites, erythrol tetranitrate, sulphocyanate, and pancreatic extract solution (Vaquez) (*insulin-free*), by injection or Scnwarzmann's (Odessa) muscle tissue extract injections may be given.

I again wish to thank the chairman, the discussors, and the distinguished visitors and members of the section on ophthalmology and oto-laryngology for the reception and attention that this paper received this afternoon.

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(*Concluded on page* 349)

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A New Dietetic Lead

The studies of Chidester and Wesson on dietary unsaturated fatty acids and iodin, published in this issue of THE MEDICAL TIMES, suggest some interesting clinical relations between diet and thyroid functioning. It would seem that unsaturated fatty acids in the diet, whether taken in pure fat foods like butter, or in leafy vegetables like cabbage, can render the iodin in the body more or less unavailable; foods which contain considerable iodin, like cod-liver oil, do not have this effect.

Low fat (fortified if possible with iodine and vitamin A) dietary for hypothyroidism, and high fat for hyperthyroidism, would seem a clinical corollary of the important data worked up for us by Chidester and Wesson.

The fat-iodin balance, vitamin A's part in the diet-thyroid drama, and the governing factors of thyroidal normality are better clarified through this work. Pure science and the clinic as well are benefited.

The Advertising Racket

Many European medical celebrities are now being exploited in the advertising columns of the press. Their portraits embellish screeds in praise of the curative virtues of one commercial product or another. Many of these men are of indubitable eminence. There can be but one reason for their conduct. The economic positions of the countries in which these men live are very bad and even eminence is no guaranty of survival. In the case of those Americans who are well known yet who defy the canon of ethics a somewhat different explanation is needed.

What the ultimate effect on the profession will be is problematical. We believe that it is only a phase in our history from which we shall recover.

Pessimistic Moments

Emeline S. Whitcomb, Senior Specialist in Home Economics of the United States Office of Education, sees much that is ironical when the conditions under which people are housed are compared with the ideals of family life and enriched living which educators and social leaders are preaching everywhere. "While one group is attempting to confer upon city people knowledge of how to get the most out of living another group is sealing them up in cubes." These people are living in towering apartments in congested cities under terrific economic pressure, reduced to the barest necessities in cramped and costly quarters. In some cases rentals are refused to persons expecting to occupy apartments during the day, since such quarters are heated only in the morning and evening. Educators are urging people to read and to cultivate music, while the apartments are becoming smaller and smaller. The purchase of daily bread is the paramount problem. The cultural things of life cannot compete successfully with the fatigue that comes at the end of a day's work which has been taken seriously. As to health, it is passing strange that the record is no worse than it is.

Not so many years ago the conditions which Miss Whitcomb describes as typical of to-day would have been definitely associated with the slums. The slum has become an apartment, but the lack of space and ventilation reveals their virtual identity; the main difference is that nowadays one or two persons live in a very small cube, whereas in the old slum many persons lived in a larger cube. The reason why there is not more ill health to-day is because walls prevent the actual physical contact of large groups.

Then the people have not yet "lived down" the improved resistance which they built up during the war era and the years subsequent thereto—an era of high wages, good food, escape into the country by means of the automobile, and a temporary drop in alcoholism.

But now our industrial world has changed. Unemployment is one index; another is afforded by some of the present wage scales, as cited in the *New York Times* of September 8: $10.50 a week in lumber mills and bituminous coal mines, $12 a week in machine shops, $13.50 in paper-box factories, $14.50 a week in automobile factories, $16 in blast furnaces, $17 in slaughter houses, $20 in metal mines, "and as little to the white-collar class as swarming mutual competition makes possible." All of these things are reflected in the rapidly falling standard of living.

In Philadelphia a great institute has been established to treat the increasing number of psychoneurotic patients cast up by our cruel industrial ocean. It is interesting to speculate as to what proportion of these hark back to the economic factor. What is true of Philadelphia is true of any city. What Miss Whitcomb says of the people's difficulties in realizing high principles applies equally to matters of

health: "The high principles being pronounced by social leaders sincerely attempting to improve the lives of millions of persons caught in the vortex of our fast moving industrial age can in strict honesty be realized only by those who have pockets filled with money and can place themselves in an atmosphere conducive to that serenity, contentment, and joy of living which the lofty ideals invoke."

Will it be long now before increasing disease among the unprivileged masses will spread ever and ever upward through all the ranks of society? Are we living in the fashion of fools just now, before the deluge?

A Cheap and Threadbare Canard

It is our conviction that there has been a certain amount of malice in the cant phrases that have long aimed to signalize the "passing of the general practitioner." The wish, too often, has been father to the thought in the minds of his professional competitors.

The psychology of this state of affairs has mainly to do with the desire to insist, with the force of fiat, that the general practitioner does not exist. The underlying motive is obvious enough—he is not to be patronized to the disadvantage of others.

The truth, of course, is that the general practitioner does exist, has never ceased to exist, and will continue to exist. Over against the negative fiat let this affirmation be sounded in stentorian tones.

It will be said that overspecialization alone led automatically to the alleged passing of the general practitioner. But it would be foolish to deny that attempts were made to expedite the passing.

Let us have an end to a malicious and contemptible —when not venal—piece of propaganda.

A Handicap to the Mental Hygiene Movement

What is practically equivalent to Gandhi's "civil disobedience" is now operative in this country. The continued business depression is accentuated by a sullen resistance on the part of consumers to salesmanship—in so far as it is not due to the fact that they have less money to spend—and by the sullen reluctance of certain capitalists holding most of the wealth of the country to "loosen up."

What lies behind this social psychology? Everybody has become mired in the mess following overproduction, foreign market complications and stock and tariff racketeering. Consumer and capitalist alike are in sullen, bad-boy mood. They won't play the game.

How can this psychological sickness be cured?

The morale of the country could be largely restored by the immediate modification of the Volstead Act. We say the Volstead Act because an emergency confronts us and we can do the practicable thing. The repeal of the Eighteenth Amendment itself is twenty-five years away, if indeed it is ever repealed. Sufficient psychological relief would be secured now by radical surgery on the act which made effective the great crime against the constitution.

Governor Roosevelt attributes part of the increased admissions to institutions for mental patients to the current business depression. "Taking the present trend and the records for other years into consideration", he says, "there is a necessary conclusion that economic conditions strongly influence the number of admissions into institutions. This complicates a problem of overcrowding that has long been serious. Unemployment and worry over economic circumstances are helping to break down mental stability."

The point of this editorial is that without a restoration to social and economic normality mental hygiene work will not get much further.

Facilities for Treating Eye Diseases

According to the Welfare Council of New York City, facilities hereabouts for treating eye diseases are inadequate and to a large extent ineffectual, mainly because conservation of vision has not yet been accepted sufficiently as a public health responsibility. As a result of its survey, the Council records only a small proportion of the eye specialists as recognizing a public health responsibility.

"Eye services require all the facilities for examination and treatment of other parts of the body that are offered by general hospitals. Eye conditions are usually involvements of other disease conditions. In some eye troubles the remedy for the difficulty is the strengthening of the whole body. An eye clinic that is not a part of a general hospital should have cooperative relations with other medical and health services."

It is not sufficient for a hospital dealing with special ailments to call one of its consultants when a diabetic needs a food prescription. It should follow the example of the Brooklyn Eye and Ear Hospital and employ a resident internist.

Private Practice and Militarism

Even France would have a serious unemployment problem were she to disband her military forces on land and sea and in the colonies. Her population is not restricted to the point that some critics fancy.

Militarism to-day is both a cause and a result of excessive bourgeois population. Militarism is made possible by such numbers and itself decrees recruitment. War depends on whether the will to reduce bourgeois population in point of numbers or the will to make bourgeois war is in the ascendency. The war spirit is strong in the Fascist State simply because in such a state the bourgeoisie, by force of numbers, impose their ideas and ideals.

Members of the proletariat are only the pawns of war. They supply the muscles and the emotions. They cannot be materially reduced in numbers through birth control. They merely strengthen the hands of the bourgeois militarists.

It is safe to say that one of the chief aims of the forces attempting to restrict bourgeois population (which is the class upon whom their teachings chiefly operate) is pacifism, while one of the chief aims of the forces attempting to increase population is militarism.

Either unemployment or war results from excessive populations. They vie with each other as evils.

Peace to-day would seem to depend upon the further reduction in prestige and numbers of the trading middle class from which emanate most of the ideals, sinews and directors of war. Yet it is the ascendency of that class in numbers and power and wealth which makes private medical practice economically feasible. In so far as that class is eliminated through birth control, to which it is so vulnerable, in so far is private medical practice jeopardized and the way made easy for socialism.

Militarism, then, is a kind of rough measure of the ascendency of the bourgeoisie, and by the same token

it is "synergistic" to private medical practice.

Can the physician, then (he himself is usually a member of the bourgeosie), who wishes to perpetuate private medical practice and ward off a socialized profession, be, consistently, an anti-militarist, an advocate of unrestricted birth control, or an opponent of any of the conservative institutions of society which buttress the middle class?

It would seem that those who would selfishly (?) uphold the present social order as we see it in the United States should resist too intensive birth control among the middle class. It should be so applied as to make militarism possible while eliminating unemployment—a choice of evils such as France has made. We don't want both. But without the former there would be no bourgeoisie and no private practice.

The medical profession's present economic difficulties are intimately related to the undue decline in numbers, prestige and purchasing power of the middle class and the surge of the masses toward conditions inviting the imposition of socialism at the hands of political charlatans.

What will the doctor do? Is he so idealistic, individualistic and "inconsistent" as to be able to stand aloof from bourgeois morality and see, think and act upon a wholly disinterested plane?

Miscellany

First Prize to Dr. S. Adolphus Knopf

A few months ago the Editors of *Clinical Medicine and Surgery of North Chicago* invited American physicians to contribute essays on "The Future of Medicine", in competition for a first, second and third prize.

A number of manuscripts were received and published in the July issue of *Clinical Medicine and Surgery*. The judges were the readers of the magazine. The ballots had to be in by August 30th and the awards have now been made as follows:

First prize—S. Adolphus Knopf, M.D. (Univ. N. Y. and Paris), New York.

Second prize—Edward H. Ochsner, B.S., M.D., F.A.C.S., Chicago.

Third prize—J. Lewis Webb, M.D., Chicago.

Of Equal Importance—The Old and the New Schools

In one of the up-state counties, in which there happens to be a great university with a highly equipped and staffed medical school and hospital, there was recently held a conference of State medical officials, hospital and college staffs and the doctors in general of the district to consider county medical organization along modern lines. Since under the new poor law the general practitioners in the rural districts will function more definitely and profitably in the care of patients hitherto on their charity lists, such valuable men under the dispensation that is to be were included in the work of the conference. Now it happened that in the conference and at the dinner that was given in connection with it there was an old doctor who had been practising fifty years or more in the community and who by reason of his personality and gifts had been "the life of the party." The old practitioner made it known that he was very anxious to observe more directly the work of his young confrères in their hospital and laboratories, confessing to certain delinquencies in the field of ultra-modern medicine, but evincing the most sincere interest in the new medical arcana. The young medical scientists and clinicians were delighted to comply with the desire of the old gentleman, for whom the liveliest liking and respect had been conceived. So an appointment was made and the veteran was conducted through the wards and laboratories of the great hospital and the greatest pains taken to demonstrate everything satisfactorily. After rounds the group settled down in the staff room to smoke and discuss the inspection, whereupon the veteran expressed his admiration and appreciation but ended with the query as to whether they had any problem cases the nature and proper management of which were baffling them a bit. One staff man replied that he had such a case in his ward. It was undecided whether the man had a gall-bladder, an appendix, or one or another of a variety of abdominal conditions, and operation was still under consideration. Was that patient, asked the old practitioner, in the third bed on the right in such and such a ward which they had traversed in the course of their inspection? Yes, that was the very case in point. "Well," said the old gentleman, "just as I passed that bed I smelled typhoid fever."

That which is most precious in both the old and the new medical cultures must be fused in the science and art of the future.

A Tribute

Builders of dreams, the builders of our hope,
The healers and the binders up of wounds,
Who, while the dynasts drenched the world with blood,
Would in the still small circle of a lamp
Wrestle with death like Hercules of old
To save one stricken child.—Alfred Noyes.

Extent of Use of Narcotics Sought

A nation-wide survey of all diseases in which narcotic drugs might be used has been begun by the Public Health Service. The purpose of this is to determine the degree of use of narcotics not only under normal health conditions, but also under abnormal conditions, such as the influenza epidemic of a few years ago, when the demand for narcotics for legitimate use was greatly increased.

National Health Institute Presented with $100,000

Announcement of a gift of $100,000 to the recently created National Institute of Health by the Chemical Foundation, Incorporated, was made in correspondence presented June 23 for printing in the Congressional Record by Senator Ransdell (Dem.), of Louisiana.

Biography

(*Concluded from page* 346)

197. (No Author)—Todliches Nasenbluten. A. d. mil.-med. Ber. Med. Zeit. v. Ver. f. H. in Pr. Nr. 6, 1835.

198. Sans nom d'auteur—Un syndrome familial peu connu; telangiectasies multiples avec hemorrhagies a' repetition; La Semaine Medicale, January 1, 1908, XXVIII, No. 1, pp. 5-7.

199. Case shown at Dermatological Society of London, Dec. 12, 1900, both this case and Smith's are referred to by F. Parkes Weber—*Lancet*, July 20, 1907 (London).

200. "Death from Epistaxis"—*Lancet*, London, 1838-9, II, 27.

201. "Essay"—"Pathology and Treatment of Epistaxis"—Phila. *Monthly Journal of Medicine and Surgery*. Art. I, Vol. I, No. 3, Aug. 1827, pp. 105-113.

202. "Nasal hemorrhage"—*Gaz. d. hop.*, Paris, 1862, XXXV, 122.

ADDENDA

Barbash, S.—Hereditary (familial) Telangrectasia: *Jour. Med. Soc'ty, N. J.*, xxvii, No. 10, p. 820, October, 1930.

Erdheim, S.—Telangrectasia with Epistaxis (55 families collected)—*Brit. Jour. Dermat. and Syph.* (London), Feb., 1929, Vol. XLI, p. 55.

McCrae's 1930 Edition of Osler's Practice of Medicine: p. 616. (Refers only to Gjessing's 1916 paper—collected 15 families)—D. Appleton & Co., N. Y.

Gjessing, E.—"Telangiectasia Hereditaria Hemorrhagica (Osler)"—with extensive literature (15 collected families), *Dermat. Zeitschr.* XXIII, pp. 193-211.

The Physician's Library

System of Clinical Medicine. By Thomas Dixon Savill, M.D. (London). New York: William Wood & Co. Pp. 1019, including index. $10.00 net.

A work that has existed for more than twenty years, with every new edition elaborating and perfecting the former one, hardly needs any further recommendation. The eighth edition of Dr. Savill's masterful system of clinical medicine with a wealth of new information is now available.

Differing from other systems of medicine by "approaching disease from the standpoint of symptomatology," this classic has proven to be an invaluable aid to student and physician in familiarizing them with the outstanding symptoms of diseases, and thereby increasing the number of correct diagnoses.

This book contains not only a description of symptoms of various diseases, but it treats a given organ or region by mentioning, (1) all the symptoms referable to it with a complete differential diagnosis; (2) all the physical signs of disease of that organ and the methods of their detection; and (3) a clinical classification of the different diseases in that region. Thus we have in one volume a book on medicine, differential diagnosis, and physical diagnosis. A very complete textbook recommended to every student and physician.

Tropical Medicine in the United States. By Alfred C. Reed, M.D., Professor of Tropical Medicine, The Pacific Institute of Tropical Medicine within the George Williams Hooper foundation for medical research of the University of California. Philadelphia: J. B. Lippincott Co. Pp. 410.

In this book Dr. Reed very successfully accomplishes his one object, viz., "to present a serviceable guide to the physician in the United States in his contact with tropical medicine." At first sight the reader will undoubtedly be surprised at the diseases included under tropical medicine, but the author's explanation more than reconciles their appearance in this volume.

To mention every disease presented and give it due praise would be beyond the scope of this review. That the subject of tropical medicine is an all-important one goes without saying, especially when we call to mind a few of the commoner diseases that fall under its category, e.g., malaria, amebiasis, filariasis, undulant fever, tapeworms, etc. These and many other diseases are excellently described by the author, who also allots several pages to a consideration of elemental conditions and personal hygiene in tropical climates, which will be of great value to travelers, business representatives, and missionaries.

Every physician should avail himself of this compact guide in tropical medicine and acquaint himself with so-called tropical diseases, which in this day of extensive travel are bound to confront him in his daily practice.

A Textbook of Massage for Nurses and Beginners. By Maude Rawlins. St. Louis: C. V. Mosby Co. Pp. 144. Price, $2.00.

The author has very wisely brought to the reader's attention early in her book that massage or massotherapy is an art and founded on a scientific basis, and that mere rubbing is not to be confused with it. She very clearly describes with the aid of many diagrams the different methods of massage, and happily points out its limitations. Massotherapy has assumed a vital rôle in our present healing art, and the need for more well-trained masseurs is making itself felt. This book is an excellent guide in the acquisition of this art.

Gonococcal Infection in the Male. By Abr. L. Wolbarst, M.D. St. Louis: C. V. Mosby Co. Pp. 297. Price $5.50.

Dr. Wolbarst has indeed given us an inestimable contribution in the field of urology. The entire book is characterized by clarity of expression, conciseness, thoroughness, and sound advice based on a wealth of knowledge gained by personal experience over a period of thirty years. New ideas are not disparaged, but on the contrary are presented and discussed in a spirit of progressiveness.

The author is to be particularly commended for his pioneer work in infection of the verumontanum so copiously illustrated in this book and so little dealt with in other urological works; for his chapter on diathermy which reveals the most recent advances in gonorrheal therapy; and for his invaluable five glass catheter test for the determination of the source of pus and shreds in chronic male gonorrhea. Here and there some real words of wisdom are spoken, and some bits of information will undoubtedly be a revelation to many general practitioners.

This disease of the staff and stones is deplorably too common, and the sooner a saner and more satisfactory method of treatment such as the author describes is adopted, the fewer will be the grisly cohorts of "a disease which has been so tragically neglected in the past." We have hopes that in the future the havoc gonorrhea has played "upon young men and women who have been kept in complete ignorance of its mode of acquisition and its consequences, because of puritanic prudery and in the interests of a false 'morality'," will be abolished in large extent by some 'deus ex machina.'

Nervous Indigestion. By Walter C. Alvarez, M.D., Associate Professor of Medicine, University of Minnesota (The Mayo Foundation. New York: Paul B. Hoeber, Inc. Pp. 297. Price, $3.75.

Very aptly has Dr. Alvarez pointed out that the field of chronic indigestion is a neglected one. Its symptoms are very often chiefly functional in nature, and this he clearly brings out by showing how easily emotion can disturb the digestive tract. Before he takes up the functional disturbances (among which are placed fatigue, temperament, anxiety, marital infelicity, etc.), he describes very succinctly the organic lesions responsible for indigestion, and he strongly admonishes us carefully to rule them out before making a diagnosis of functional indigestion.

A patient suffering from nervous indigestion is truly uncomfortable, to say the least, and the handling of such a patient is a real problem, requiring patience, tact, sympathy, temperamental fitness of the physician, etc., or, as the author puts it: "For one person who can be driven in anger there are hundreds who can be led with sympathy, understanding, and friendliness." The book reads almost like a novel, but contains many words of wisdom.

Burns. By George T. Pack, B.S., M.D., and A. Hobson Davis, B.S., M.D. Philadelphia and London: J. B. Lippincott Co. Pp. 364.

It seems rather incredible at first glance that so much can be said about "burns" as to necessitate the writing of a volume such as this. When we look back, however, and see the degree of progress medicine has made in the management of cutaneous burns, we wonder that a work of this kind had not been written sooner. The authors are to be complimented for their systematic and thorough consideration, from every possible angle, of the subject of burns. Not only thermal burns but burns by electricity, lightning, Röntgen rays, radium, sun, caustic chemicals, and war gases are fully discussed.

Every modern treatment is described in detail, but the secret of success, as the authors intimate, is individualization of the patient: in other words, treat not only the burn but the patient as well. A wealth of interesting information is to be found in this book, and it is recommended to every physician and surgeon, and particularly those who are frequently called upon to render first aid for burns.

Clinical Nutrition and Feeding in Infancy and Childhood. By I. Newton Kugelmass, M.D., Ph.D., Sc.D., Director Hecksher Institute for Child Health, etc. Philadelphia and London, J. B. Lippincott Company. 1930.

This book of 345 pages contains a vast array of pediatric data, packed in the most compact form consistent with readability. So massed are the data that the book becomes perforce a kind of practical reference volume. Certainly the general practitioner will find in it all he could possibly seek to know in the field of nutritional pediatrics to guide him in the scientific care of children after the modern manner; and as the author truly says half the practice of pediatrics is concerned with specific nutritional therapy. Here is "exact knowledge instead of feeding fads, facts instead of fancies, scientific standards instead of empirical enigmas." Summary statements are followed by graphic discussions. Nutrition and feeding are visualized for the practitioner as vividly as is humanly possible. A more useful pediatric guide for everyday work would be hard to conceive.

A Practical Medical Dictionary. By Thomas Lathrop Stedman, A.M., M.D., formerly Editor of the *Medical Record*, etc New York, William Wood and Company. 1930. Pp. 1234. Price $7.50.

The profession will gratefully and heartily welcome the eleventh edition of a great editor's great dictionary. The publishers state that this is the only complete standard American dictionary with a new revised edition this year. Dr. Stedman has nearly attained his object, "the purification of medical orthography." It cannot, of course, be absolutely attained, the perversities of medical speech being what they are. The volume is adequately illustrated and there are 22 plates. The new bacteriological nomenclature is adopted, but there are cross references giving the older and as yet more commonly employed names. The terminal *e* is properly used to distinguish alkaloids from glucosides and to indicate basic chemical substances (e.g., quinine, strophanthin, iodine). In words derived from the Greek k is changed to c, in accordance with the genius of the Latin as well as of the English language (e.g., leucocyte, leucorrhea). The appendix carries a table of drugs with their preparations and doses and there is much other useful information in it. In fine, spellings and definitions are all authoritative in this work and it should find a place on everyone's library shelves.